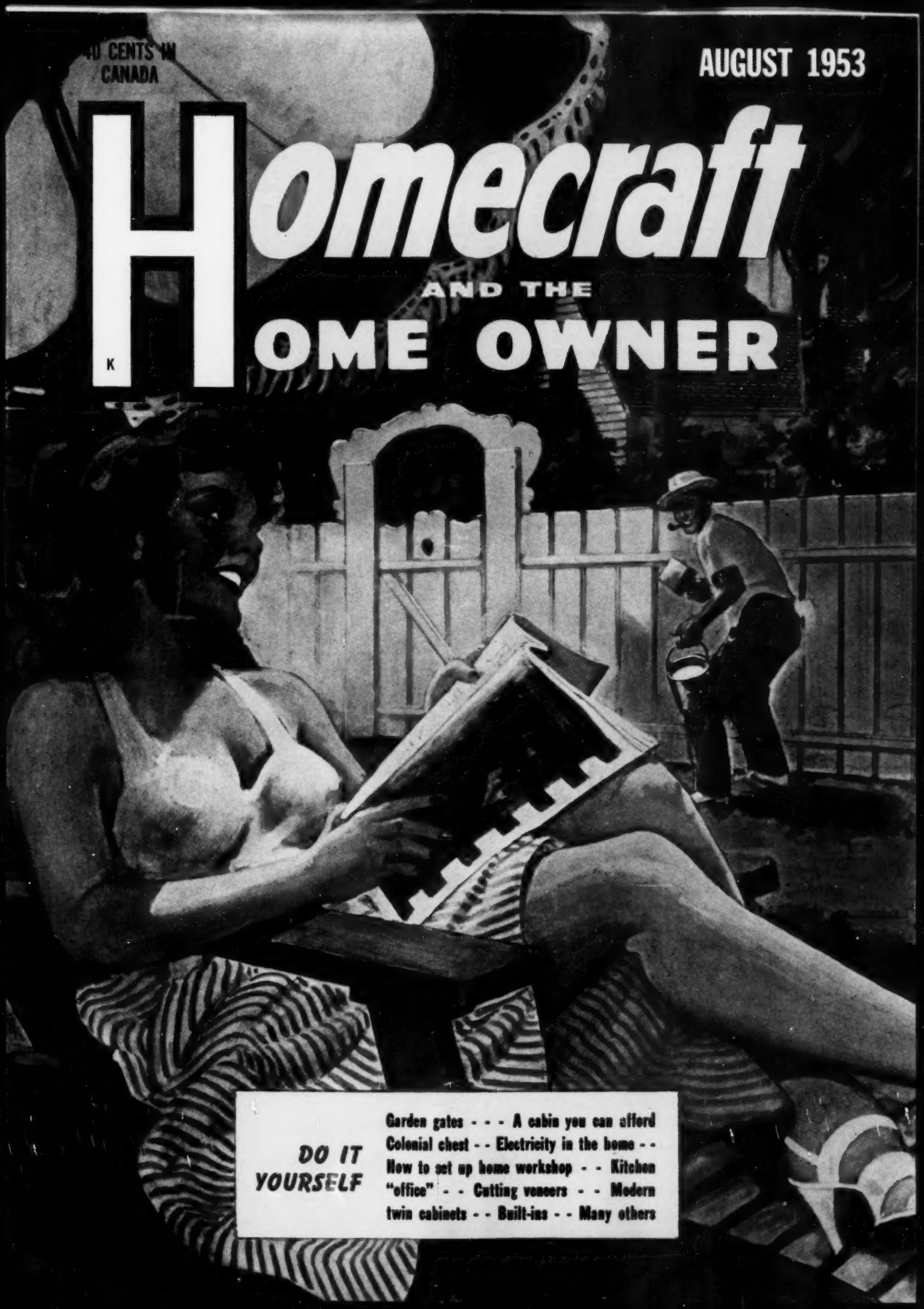
40 CENTS IN CANADA

AUGUST 1953

Homecraft AND THE HOME OWNER



DO IT YOURSELF

Garden gates - - - A cabin you can afford
Colonial chest - - Electricity in the home - -
How to set up home workshop - - Kitchen
"office" - - Cutting veneers - - Modern
twin cabinets - - Built-ins - - Many others

Wonder-Tool of a Thousand Uses!

Make Yours a Better Shop! The DELTA Homecraft Drill Press Combines Accuracy with Real Versatility!

If you know something about power tools, you know what every production shop man knows . . . that only a good drill press can do the accurate drilling operations you want in a complete shop; that portable hand tools alone are not adequate. How else can you do mortising—hold counterbores to accurate depths—get real accuracy and versatility?

Once you appreciate a drill press, you'll really appreciate the *Delta*. Built to high quality standards it becomes the workhorse of your shop, performing a wide range of operations easily, accurately and swiftly. With Delta's available, exclusive interchangeable spindles you change from one cutting tool to another in seconds. You never hammer the chuck—just select the right spindle for the job you want to do, insert it, lock it and go to work.

The Delta Homecraft Drill Press, with "built-in," precision is the biggest quality tool bargain your money can buy. Beginner or "professional," you'll turn out clean, fine-quality work right away.

See Delta's wonderful accessories on the facing page. See the tool in action at your Delta dealer, local hardware or department store . . . and use the coupon for your Delta Homecraft catalog and for your copy of "How to Get the Most Out of Your Delta Drill Press," (a bargain at 50c)!

Cutting beautifully shaped edges for table tops, picture frames, etc. is easy on this Delta Press, using Delta's shaping attachment.

DELTA
MILWAUKEE

DELTA QUALITY MAKES THE DIFFERENCE

DO THESE AND SCORES OF OTHER USEFUL JOBS WITH YOUR DELTA DRILL PRESS

- drill in wood, metals, plastics
- cut plugs
- mortise
- cut dowels
- carve
- core drill
- sand
- shape
- grind
- bore
- polish
- ream
- spot face
- counterbore
- countersink
- rabbet
- flute
- tenon
- rout
- buff
- cut disks
- spin rivets
- mix paint
- use as an arbor press

DELTA QUALITY POWER TOOLS

Another Product by **Rockwell**

Delta Power Tool Division
Rockwell Manufacturing Co.
508G N. Lexington Ave., Pittsburgh 8, Pa.

☐ Please send latest Delta Homecraft Catalog
☐ Please send the Drill Press Book (50c enclosed.)

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Address_____

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Homecraft & THE HOME OWNER

(Formerly Popular Homecraft)

Volume 23 No. 6
Whole No. 146

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Our 23rd Year

Homecraft & The Home Owner is a national publication for the professional, school and home workshop as well as a guide to home repair, maintenance and improvement, published every other month by General Publishing Co., Inc., 154 East Erie St., Chicago 11, Ill., U.S.A. Russell C. Johns, Publisher. Entered as second-class matter July 13, 1945, at the postoffice at Chicago, Ill., under the act of March 3, 1879. Additional entry at Mount Morris, Ill. Printed in U.S.A. Copyright 1953 by General Publishing Co., Inc. All rights reserved. Subscription rates: U.S.A.—35c per copy; $2.00 a year; 2 years, $3.50; 3 years, $4.50; Canada—$2.25 a year; Foreign—30c a year extra. Requests for changes of address should include both the old and new address. The editors are always glad to receive authoritative homecraft articles from readers. Send manuscripts, photos, and drawings to Russell C. Johns, Homecraft & The Home Owner, 154 East Erie St., Chicago 11, Ill. All articles will be acknowledged and paid upon acceptance, but the return of unsolicited matter cannot be guaranteed. All manuscripts and correspondence should be addressed to the executive offices at Chicago, Illinois, and should include return postage.

DELTA Becomes Your Truly Multi-Purpose DRILL PRESS with these ACCESSORIES

FOR DRILLING and SIMILAR OPERATIONS (Used on No. 972 Spindle furnished with your Delta Homecraft Drill Press.)

Set of 7 Auger Bits
¼", 5/16", 3/8", 7/16" and ½"—with ¼" shaft; 5/8" and ¾"—with ½" shaft. (Can be ordered separately.)
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3/8", ½", 5/8", ¾" and 1". (Can be ordered separately.)
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Set of 5 Router Bits
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FOR SURFACE GRINDING, TOOL GRINDING, AND POLISHING

Spindle ..... For use with cup grinding wheels. Cat. No. 991 ..... $3.40

Cup Wheel
Extremely useful for grinding and surfacing on the drill press. Furnished 3½" dia., 1½" wide, with ½" arbor hole to fit No. 991 spindle. No. 60 grit.
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Auxiliary Shaft ½" x 2½".
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Sanding Drums & Sleeves For Sanding Drums
(See your dealer for a wide selection of drums from 1¾" to 3" dia., 3" down to 1" in depth . . . sleeves in every needed type and grade of grit.)

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Mortising Attachment Complete, with heavy fence, hold-down bracket, hold-down and rod, chisel holder, curved arms and bolts. Without spindle.
Wt. 7 lbs. Cat. No. 976 . . . $7.95
(Your dealer also has a wide selection of Chisels, Bits and Bushings.)

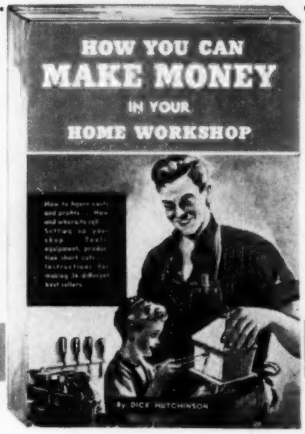
These And Many Other Homecraft Drill Press Accessories Available From Your Nearby Delta Dealer.

Send coupon on opposite page for complete information.

DELTA QUALITY POWER TOOLS
Another Product of Rockwell

HOW YOU CAN MAKE MONEY IN YOUR HOME WORKSHOP

This book shows you how to make good money at home —spare time or full time



ONLY $1.00 POSTPAID

YOU CAN DO IT TOO!

Believe this:

OTHERS ARE DOING IT. SO CAN YOU!

LOOKING FOR A WAY to make extra money? Or to build a business of your own? Getting ready to retire?

Whatever your need for earning extra money—to send a child through college, finance a home or car, store up a "nest egg" against a rainy day, become independent of your job—your home workshop can provide the means.

THINK TWICE ABOUT THAT. Look at how many elements of a full-time or part-time business you already have: The equipment (your tools), the place (your workshop), the personnel (you and maybe your family), capital (you probably have more than enough scraps and other materials on hand to start).

What else do you need? Just the desire, imagination, and ambition to get started. *Isn't it worth a dollar to find out how?*

HOW TO GO ABOUT IT

What do people buy? How to sell it? Where to sell it? How do you figure costs and set prices for a profit? What about income taxes? How do you make things on a production basis?

Dick Hutchinson's new idea-packed book tells you all the answers, *the right answers.* Mr. Hutchinson ought to know; he's been doing it for thirty years or more. The 36 different articles he shows you how to make are all items which his years of experience have proved are what people buy most readily. Profit by his experience—read "How You Can Make Money In Your Home Workshop." *Isn't it worth a dollar to find out how?*

NOW IS THE TIME: Look about you—in the papers, magazines, in your community, perhaps even among your friends. Men everywhere are successfully operating their own home workshops as a part time or full time business. If they can do it, who says *you* can't?! *Isn't it worth a dollar to find out how?*

NEW JUST PUBLISHED NEW

HOBBY BOOKS (Div. of General Publishing Co., Inc.)
154 East Erie St., Chicago 11, Illinois

I enclose $1. Please send me postpaid "How You Can Make Money In Your Home Workshop" by Dick Hutchinson. If I do not think I am getting more than my money's worth I will return it in five days, in good condition, for a full refund.

NAME _____

ADDRESS _____

CITY & ZONE _____

STATE _____ HHO853

YOU WILL GET your dollar back many times over, just from the first chapter: "Production Costs Determine Selling Price." Learn this secret of successful business and you will have a head start. It took Dick Hutchinson many years and considerable money to find out what he tells in this chapter. You can learn it all in a matter of minutes—for only a dollar.

HOW YOU CAN MAKE MONEY IN YOUR HOME WORKSHOP
Isn't it worth a dollar to find out how?

The section on income taxes is vitally important to business these days. Too many workshoppers overlook the tax angle when they set up a part time, or even a full time, business. Dick Hutchinson tells you about depreciation, taxable workshop revenue, tax-free elements, etc.

"Tools and Equipment" and "Cut Your Production Costs by Knowing Where to Buy Supplies" are *practical* analyses of two important aspects of making money at home. When you read these you'll know right off you have put yourself in the right hands.

And now for Mr. Hutchinson's specialty—"Quantity Production." Production short cuts which save time and materials are the factors which usually label a business at home as professionally inspired, or just plain amateurish. You will be amazed at how simply you can make many ingenious speed-up devices. *Isn't it worth a dollar to find out how?*

Dick Hutchinson tells you what will sell best

There are 36 best seller items (by actual experience) which Mr. Hutchinson describes with simple A-B-C instructions, specially posed photographs, and detailed drawings showing all dimensions. Yes, everything you need to know about making these items is clearly, simply, fully, graphically given —including special jigs for speeded up production.

Best of all, these are simple projects to make, requiring only conventional tools and ordinary skill. Scrap materials can be used on some. Everything in this book is beamed toward showing you how to do it better, more inexpensively and at a higher profit. *Isn't it worth a dollar to find out how?*

MONEY BACK GUARANTEE

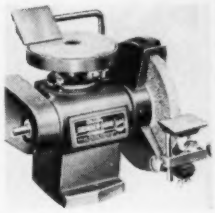
Keep "How You Can Make Money In Your Home Workshop" for five days. If by the end of that time you don't feel it can help you build a profitable full time or spare time home workshop business, send it back and we will refund your dollar in full—and no questions asked.

PICTURES MAKE IT EASY

This book leaves nothing to chance. You can't make a mistake when you make any of the 36 items it describes. Besides explaining every step in A-B-C order, Dick Hutchinson shows you how to do it. His book contains many specially posed photos and detailed drawings which contain all dimensions.

It's New on the Market for the Workshop

Combination Grinder-Hone

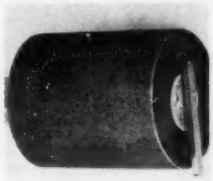


The Atlas No. 2400 combination grinder and hone will quickly put a perfect edge on almost any tool or implement. Merely move the blade across the grinding wheel and oilstone. Add a brush or buffing wheel and use it to clean and polish; or add a drum sander. Grinding wheel is 6" diameter medium grit aluminum oxide; oilstone is 5" sandwich type, with grits of 120 for whetting and 320 for final honing. Atlas Press Co., 2344 N. Pitcher St., Kalamazoo, Mich.

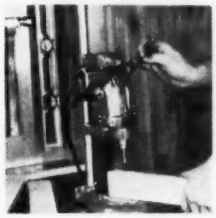
Portable Electric Jig Saw

The Black & Decker Utility jigsaw can be held and guided with one hand; is supplied with five different blades for cutting hard and soft wood, plywood, ferrous and non-ferrous metals, rubber, leather, plastics, composition boards, insulating materials. Can be mounted within seconds in an accessory table for bench work. Additional accessories include joint attachment and circle cutting attachment. For use on 115-volt AC or DC current. Black & Decker Mfg. Co., Towson 4, Md.

Economical Drum Sander



Feature of this drum sander is the fact that sleeves can be cut from standard size sheets and attached to drum by means of a simple locking device. No wedge. Drums are made in seven sizes for use in ¼" drills, drill presses, small motors, lathes and flexible shafts. Sponge rubber backing insures long wear of sleeves. Prices start at $2.90. Singley Specialty Co., Hendersonville, N.C.

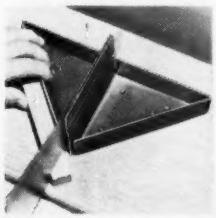


Mall ¼" Drill Stand

Greater drilling stability and smoother operation are main attractions in the new Mall drill stand for ¼" electric drills. Direct over-the-work lever pressure and a wide solid base permit operation without the stand. Model DS-1 has a 10" maximum height adjustment from base to tip of drill chuck. Has 2¾" vertical feed. F.O.B. Chicago, $14.95. Mall Tool Co., 7725 So. Chicago Ave., Chicago 19, Ill.

All-Metal Electric Spray Gun

For spraying paints, lacquers, enamels, varnishes, chemicals, oil, insecticides, deodorants, shellacs; for waxing, rust-proofing, waterproofing, etc. Requires no compressor. Operates on AC current. 25-oz. polished aluminum container. Includes 8' Neoprene cord and plug, 5 extra nozzle discs. Price $17.95. Waldorf Sales Co., 363 Central Park Ave., Yonkers, N.Y.



Inexpensive Mitre Box

A new left and right hand steel mitre box made of heavy gauge steel and cadmium plated for durability. It offers a 45° and 90° angle. A handy, practical tool for every woodworker. Easy to handle; easily mounted on bench or board. Features sawguide for accurate cutting and faster operation. Price $2.25. Eagle Products, Box 84A, Meriden, Conn.

only ½ the weight of wood

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Saves your strength—Protects your safety—and Lasts a lifetime!

You'd never believe you, *alone*, could move a ladder around so easily—yet Werner Alumiladders are strong enough for even the most rugged work! Built like an airplane of tough, tempered aluminum alloy—light but rugged—Alumiladders make jobs like fitting storm windows or painting easier, help get them done faster. You'll feel far *less* tired at day's end. Rust-proof, weatherproof Alumiladders give you a lifetime of dependable service, too. Safety Warranted. See a Werner Alumiladder at your dealer's, or write us today for *free* booklet; R. D. Werner Co. Inc., 295 Fifth Ave., New York 16, New York.

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THE SAW MOST CARPENTERS USE

to saw wood easy and true, your saw must be-

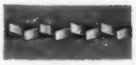
Straight
Set
Centered
Balanced

Straight
A bent or "dished" saw binds, jerks, tears lumber, tires you. *ALL* DISSTON Saws are straight!

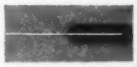
Set
Uneven set mars the work, makes straight, rhythmic sawing impossible. *ALL* DISSTON Saws are set evenly!

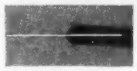
Centered
An off-center handle causes blade to bind and buckle. *ALL* DISSTON Saws have true-centered handles!

Balanced
Balance or proper "feel" of a saw is a quality on which all carpenters insist. *ALL* DISSTON Saws are balanced!


Rip

Cross-cut


True-centered handle


Off-centered handle

For budget-minded craftsmen...
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FREE Folder!
"Hand Picking Your Hand Saw" tells how to select the right saw for your needs. Ask your hardwareman for a copy or mail the coupon below.

Henry Disston & Sons, Inc.
713 Tacony, Philadelphia 35, Pa., U.S.A.
(In Canada, write: 2-20 Frazer Ave., Toronto 3, Ont.)
Please send me a free copy of "Hand Picking Your Hand Saw."
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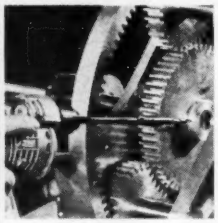
It's New on the Market
for the Workshop

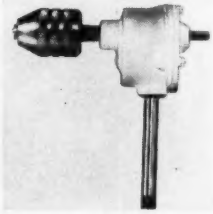
Impact Power Drive
The Dril-O-Driver converts electric drills into speedy impact screw drivers. Fifty-four ¼" drive standard tool accessories now on the market to drive hex and square nuts, Phillips, Clutch, Allen, Reed & Prince, wood and metal screws. Operator may control speed from 0 to full speed of the electric drill. Price $9.95 including "magic connector" and screw driver bit. Drilo Corp., 201 E. Carson St., Pittsburgh, Pa.

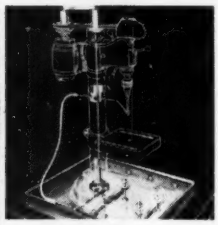
GP Gunk Available in Small Sizes
Gunk will bring to the home owner and hobbyist high-performance results for shampooing paint brushes, degreasing boat and lawnmower engines as well as degreasing and extracting the grease spots on workshop floor and driveway cement. Since it has no flash point, is non-caustic, non-acidic, it may be used safely on any surface that can be cleaned with soap and water. Price 75c pint. Curran Corp., 96 S. Canal St., Lawrence, Mass.



New Drill Extension Rod
Designed to reduce need for costly special length drills in hard-to-get-at drilling locations over 52 small diameter extension chucks, using regular length drills, fit one threaded drill extension rod and can be interchanged in seconds. Extension rod measuring 8½" long x ¼" diameter fits all ¼" drive chucks. Kit containing the 5 fractional size chucks and hi-speed drills with extension rod, $5.95. Beaver Tool Co., Box 298, Huntington, Long Island, N.Y.

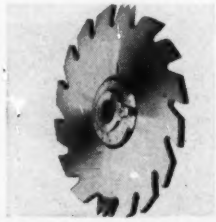
Increases Boring Power of Drills
This electric drill attachment makes it possible for any ¼" drill to bore up to ½" hole, as reduction gears reduce rpm ratio five-to-one, increasing power of the ½" chuck five times. Attachment has pinion gear of hardened steel, with internal gears of steel and bronze that mesh with each other, for long service. Priced $11.95. G.M. Co. Manufacturing, Inc., 13-08 43rd Ave., Long Island City, N.Y.





Coolant Pump for Drill Presses
This supply unit can be installed in a half-hour into the hollow column of any popular make bench drill press. No separate motor required. Operating with a half-gallon of coolant of any type, the Wade pump carries the liquid through tubing beneath the drill press. Advantages claimed, among others, include longer drill life, better size control and finish, faster speeds and feeds. Price $18.50. Wade and Sons, 924 E. Truman St., Independence, Mo.

Instant Adjustment Multi Cut Dado
Features one-piece self-contained unit of heavy nickel chrome steel 3/16" thick. Width of cuts may be varied from 3/16" to a full inch as desired. Offered in three sizes in styles to fit any arbor, the 6" size retails at $11.60; 8" at $16.50, and 10" at $23.57. Western Saw Manufacturers, Inc., 1842 W. Washington Blvd., Los Angeles 7, Calif.



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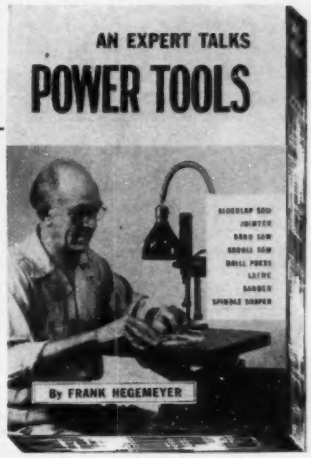

In no other book of recent years will you get as much real help on basic power tools

THIS NEW BOOK tells how to get the most out of your power tools, how to improve your methods, do better work. Describes and illustrates the best way to use each machine and its attachments. Explains the different operations you can perform on each—the conventional as well as the unusual. Tells you the do's and don'ts, and how to be a safe workshopper. Special jigs and production devices developed by the author will speed up and improve your woodworking. Frank Hegemeyer, its author, is one of the best-informed men in America on woodworking and workshop procedures. He's a "born" teacher.

IF THIS BOOK HAD CLOTH COVER YOU'D PAY $3-$4 FOR IT

Instead, we bound it in a durable plastic-protected heavy paper cover to keep its price down. We also eliminated non-essentials like a fly leaf, dedication pages, etc. That way, we're able to give you a $3-$4 value for only $1. You Save the difference.

COMPLETE: "An Expert Talks Power Tools" is as good as a course of instruction in the correct and efficient use of power tools. In words and pictures it takes you step-by-step through every basic operation—and then does the same with unusual techniques Mr. Hegemeyer developed during his 45 years as a craftsman.

PRACTICAL: "An Expert Talks Power Tools" is a veritable fountain of *usable* information that will give new meaning to your tool investment and will lift your own skill to a new high level. You will find clear explanations, 71 beautifully sharp close-up photos of important operations and techniques. 58 detail drawings that supplement the text and photos. You will appreciate that a real craftsman is teaching you, whether you are a beginner or an old hand at it.

CLEAR: As much an expert with the camera and on the drawing board as he is with power tools, the author makes his easy-to-understand text still simpler with specially posed close-up photographs and numerous mechanical drawings. Supplementary pages of *Questions & Answers* review the most common problems of those who work with power tools. Chances are, questions you yourself may have wanted to ask are covered here.

TELL-ALL PHOTOS ON EVERY PAGE
DETAIL DRAWINGS AND DIMENSIONS
QUESTIONS AND ANSWERS
JIGS AND PRODUCTION DEVICES

71 PHOTOGRAPHS
58 DRAWINGS

ONLY **$1** POSTPAID

—and you'll be surprised when you see "An Expert Talks Power Tools" that the price isn't $3 or $4.

NO RISK TO YOU

If you don't feel that this book is worth several times its $1 price, send it back in good condition within 5 days and we will return your money in full—no questions asked.

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Here's my dollar. Please send me postpaid a copy of "An Expert Talks Power Tools" by Frank Hegemeyer. If I am not completely satisfied I will return the book in 5 days, in good condition, and you will refund my money in full.

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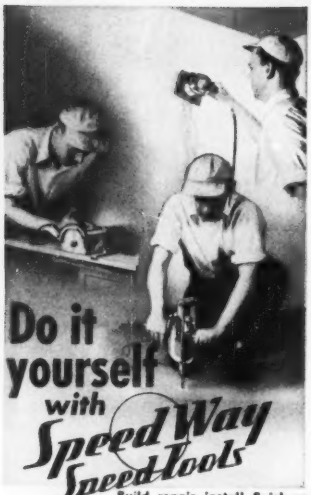

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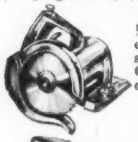

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FIX IT YOURSELF

By Percy S. Graffam
Associate editor

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You are invited to send your inquiries on home repair problems—interior and exterior, as well as on items used in the home. They may concern construction, heating, wiring, plumbing, painting, etc., and may involve wood, metal, leather, plastic, glass or any other material. All inquiries will be answered as promptly as possible, either in this column or by personal letter. Be sure to enclose addressed stamped envelope when writing to Mr. Graffam.

Q. I have just finished building a house, and some of the window sashes are turning black from condensation. The finish is varnish. Is there any way I can get rid of the dark spots?

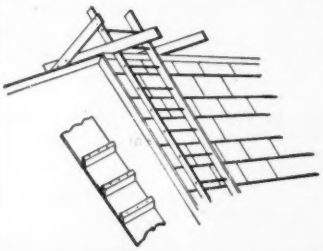
A. Condensation is apt to occur in a new house within six months after it is built. It is caused by excessive moisture from new plaster and fresh cement, or in cold weather when interior humidity is high.

Condensation can be controlled by means of vapor barriers, proper ventilation and the installation of storm doors and windows. (We have printed several suggestions in this column for control of condensation by these means.)

To restore the window sash, remove all the old varnish and sand down to bare wood. Next bleach, using a commercial two-solution bleach, and apply according to manufacturer's directions. Finish with two coats of varnish. Thin the first coat ten to fifteen per cent with turpentine and apply the second coat just as it comes from the can.

It is possible that after you remove the old varnish you may find the dark spots too deep to bleach out. In this case you can either paint or apply a ground coat and grain. For this finish a buff-colored undercoat of flat paint should be applied. When dry, sandpaper and apply a graining coat of light oak. Brush this coat up and down, leaving the brush lines vertical. The lines to imitate the natural grain of the wood then are applied with a small brush and fairly thick paint. Then immediately take a dry brush and draw it lengthwise down the surface, dragging out the lines to give them a more natural effect. After the paint is dry, sand lightly and finish with a coat of varnish.

Q. I want to do some repairing on the roof of my house. Could you tell me what kind of ladder should be used and how to go about building it?



A. Almost any kind of a straight strong ladder can be used for roof repairing, care being taken to provide some type of support to hold it firmly in place while it is in use. Ladder hooks may be used and these can be purchased at most lumber dealers. For temporary use a long straight ladder or a so-called "chicken ladder" may be used to support the person making repairs.

This type ladder is made by nailing 1" x 2" cleats about a foot apart on a 1" x 10" board and should be hooked over the ridge of the roof as shown in the sketch. Hooks of this kind are made by nailing or bolting a strong piece of wood to each leg near the upper end of the ladder at an angle with the legs as shown in the sketch. This angle should conform as nearly as possible with the slope of the roof and the pieces which form the hooks should be braced by short boards between them and the legs of the ladder.

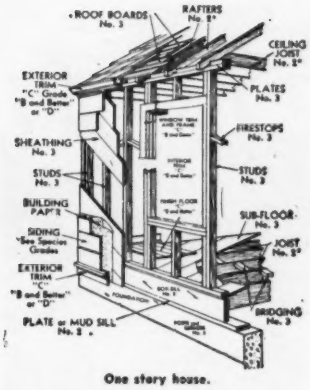
Q. The paint on my cement basement floor peels after it has been on for several months. Is there any way to remedy this?

A. Cement floors present special problems. In this case, I believe there is a damp place in your floor where the paint does not have the proper adhesion. First, the old paint must be removed; then use a solvent reducer to clean off all the wax and grease. Next apply an alkali solution containing not more than one pound of lye to five pints of water. After the paint has been cleaned off, flush with water.

In all new or old cement work it is advisable to etch with acid. By etching, the adhesion of paint is greatly improved and alkalies which have a destructive action on paint films are neutralized to a great extent. A solution of muriatic acid, made by diluting one part of concentrated acid with three parts of water, should be used for etching. Use a wooden bucket or enameled pail and a stiff fibre brush. Apply one gallon of the solution to one hundred square feet of floor and scrub well while applying. Allow solution to remain on floor until it stops bubbling; then flush off thoroughly with clean water.

If the surface does not dry in a few hours, flush off again. When surface is completely dry, proceed with painting. For a floor where dampness or moisture sometimes is present use a rubber base enamel. For dry floors use a quick-drying, elastic floor enamel.

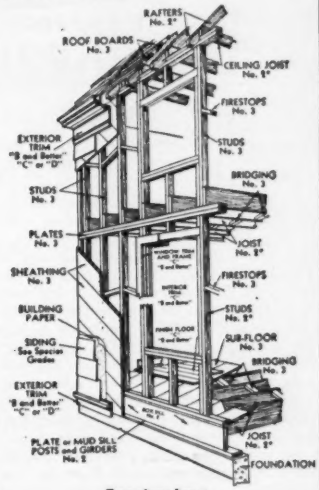
Q. What are the less expensive grades of lumber that will eliminate unnecessary costs and at the same time provide sturdiness and long wearing qualities for a house?



One story house.

Sketches from West Coast Lumberman's Association

A. The West Coast Lumberman's Association lists the various grades of lumber they recommend for economical one-story and two-story construction. Considering an average house uses one thousand to two thousand pieces of lumber, large and small, it is quite important that each piece performs a particular function. It must add stiffness, insulation, strength or pleasing appearance to the house. West Coast woods are Douglas fir, hemlock, Sitka spruce and red cedar. They are graded No. 1, No. 2, and No. 3 and Select No. 1 (for exposed use where extra strength or appearance is important). Finishing lumber is graded "A," "B and better," "C" and "D."



Two story house.

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BEGINNERS' Column

EASY-TO-MAKE PROJECTS

By I. M. FENN

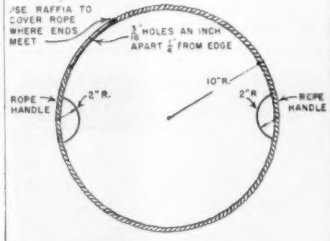
TV SERVING TRAY

This TV Serving Tray is simple to construct. Several might be made at the same time and in various sizes and shapes. It is a good idea to give them as gifts. The serving tray can be used at beach parties or on picnics.

Only a few conventional tools and a piece of plywood or plastic material are required. Compass, dividers, coping saw, hand drill and darning needle are the "weapons." Time will be saved if you have access to power tools.

Fir plywood is inexpensive and will take a nice finish. Rope, strong cord, raffia, decals and sandpaper are the only other requirements. Colored plastic material will make a beautiful serving tray.

1. Draw the circle according to the dimension called for in the drawing. Use a compass or a piece of string tacked on



one end to the base, and a pencil tied to the other end. This will give you a circle as large as you want.

2. Draw another circle ¼" inside the edge of the outer circle. Use dividers to mark off 1" spaces on the inner circle as shown in the drawing.

3. Drill the 3/16" holes 1" apart on the inner circle for the purpose of tying the rope to the base.

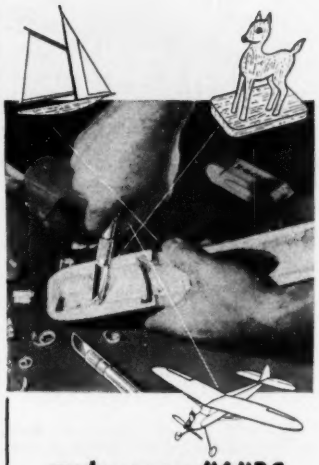
4. Cut out the outer circle, using a coping saw or jig saw.

5. If plywood is used sandpaper the base; then finish with stain and shellac, lacquer or enamel. Plastic material should be buffed and polished.

6. With a darning needle and a strong cord sew the rope in place through each hole. Continue around the tray and make certain to slipknot a couple of times through every hole.

7. Use raffia or strong cord to wrap and cover the rope ends where they connect. Caution: It is very important that the rope at both sides of each handle be doubly secured to the base of the tray with the strong cord.

8. It is suggested that the rope and plywood base be given a coat of wax as a final finish and protective covering.



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Raised-Center Serving Tray
Novel Sombrero Snack Tray
Deep Mahogany Fruit Bowl
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Pipe Bowl With Cork Knocker
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Quaint Kettle-Shaped Bowl
Colonial Knitting Bowl Stand
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Ship's Wheel Magazine Basket
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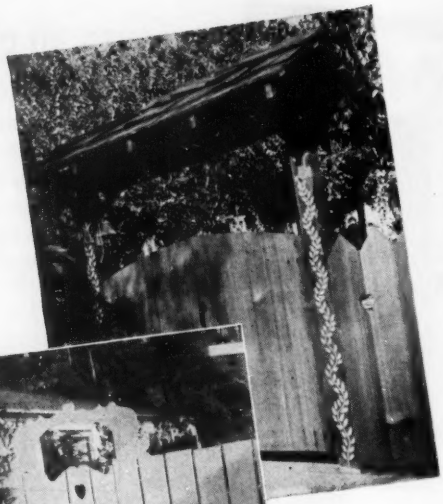
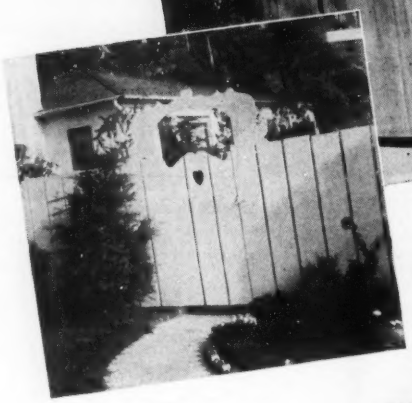
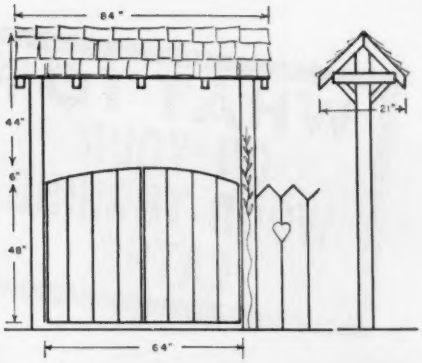
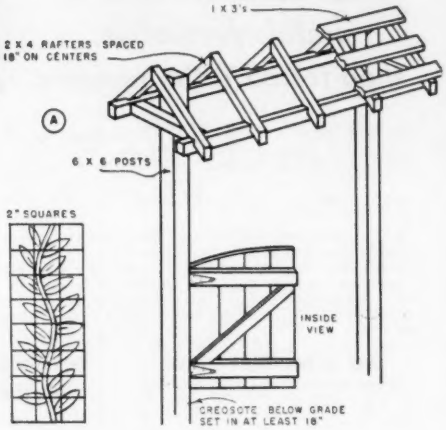
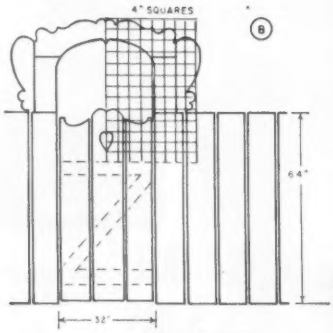


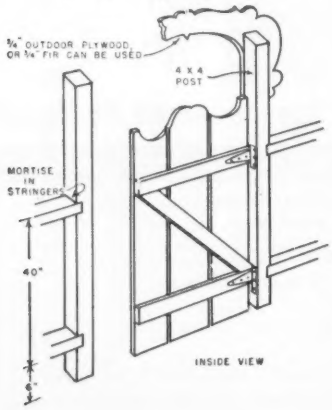








5 gates



A An exceptionally attractive covered gateway, accentuated by the frieze of vines painted on each post in an apple green against the dark-stained wood. It is roofed with shakes. Shingles may be used if the former are not available.

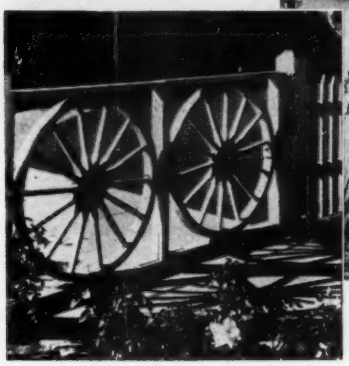
B If you like curves, this is for you. Note how the scroll-sawed members are assembled on the posts.

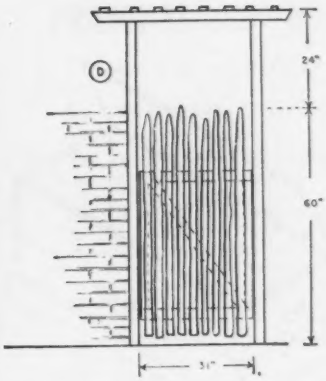
C Wagon wheels have a fascination for many home owners as used in fences, gates, mail box supports and merely as "atmosphere" for a suburban place. Here is a neat double gate very easily built; it should, however, have sturdy hinges.

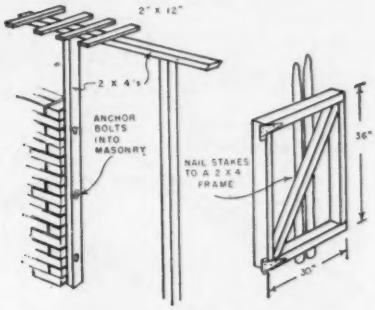
D A pleasing rustic effect is achieved with this gate of split redwood stakes, known as grape stakes in California. Any other available material could be used instead, such as split telephone poles, or even seasoned and peeled saplings.

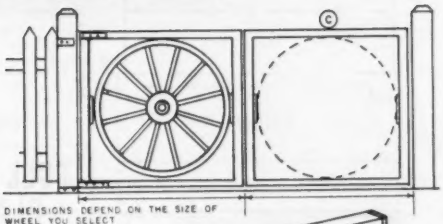
E A smart gate for the home workshopper who has access to a jointer. The frame members are dadoed 3/8" deep to receive the plywood panel. Corners are mitered. Apply Casein glue to all contacting surfaces.

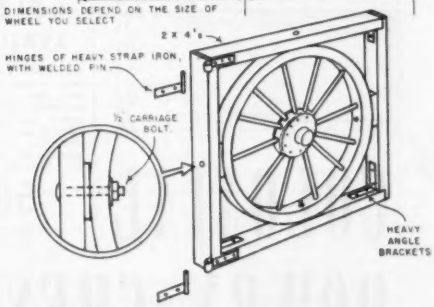
"You pays your money and takes your choice . . ."

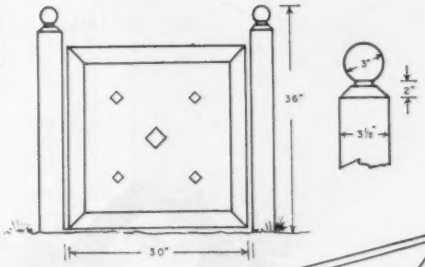


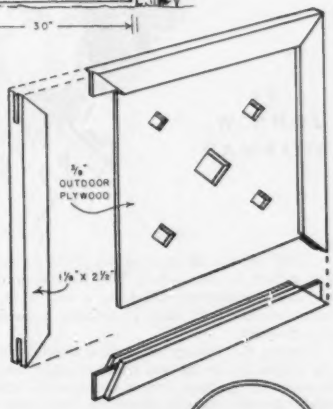


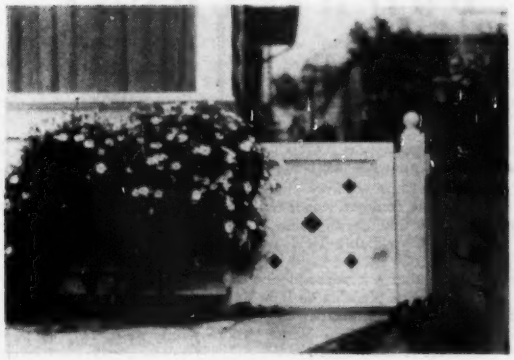


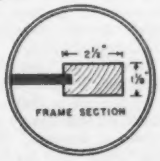












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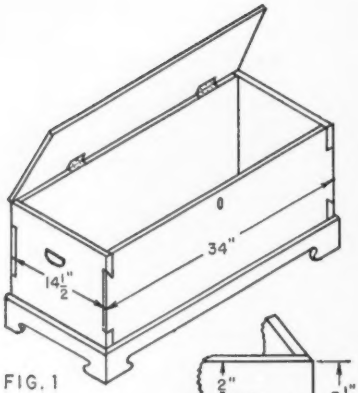
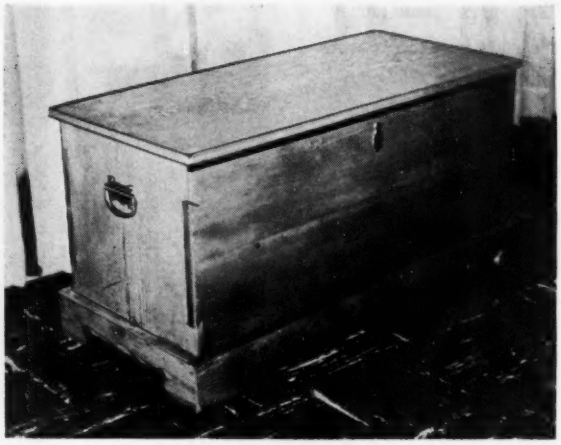


FIG. 1
DOWRY CHEST



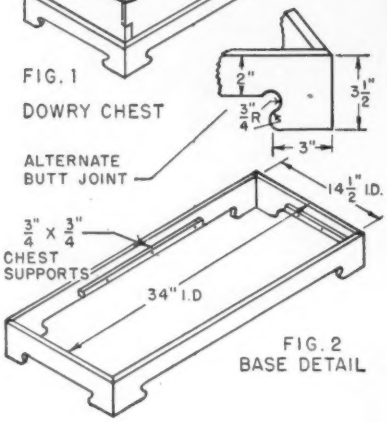


FIG. 2
BASE DETAIL

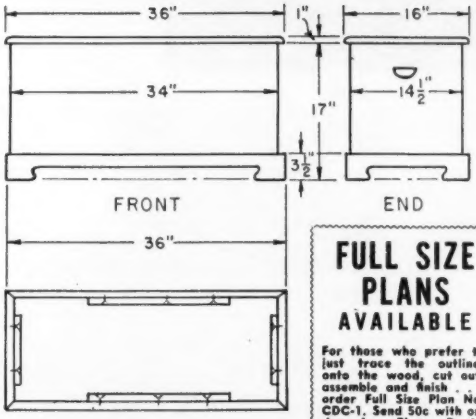


FIG. 3

FULL SIZE PLANS AVAILABLE

For those who prefer to just trace the outlines onto the wood, cut out, assemble and finish . . . order Full Size Plan No. CDC-1. Send 50c with order to: Plans Dept., Homecraft, 154 East Erie St., Chicago 11, Illinois.

50c postpaid

COLONIAL DOWRY CHEST

By
JOHN W. SHERMAN

ONE OF the more common items in early Colonial homes was a chest, or strong box. This chest served many uses: it was a storage place for valuables, it was a linen chest, it was a spare bench. And most important, it became the daughter's dowry chest.

Tracing the history of such a chest is fascinating. Perhaps the origin lay in the sea chest brought ashore by some ship's captain. Or perhaps it was constructed with loving care by a father for his favorite daughter. Who can tell the history of these useful pieces?

Since these "chests" were of generous proportions, the early families soon adapted them to linen and bedding storage. Then they became in time our present day cedar chest. Another offshoot of the dowry chest was the blanket box, and later a "chest of drawers." Still later, legs were added to this growing "chest" and we have our bureau and highboy chests.

Our reproduction is of an early dowry chest, suitable for blankets or linen, and as a seat for the foot of the bed. The chest may be further carved or adorned to suit the taste of the builder. In fact, it even may be painted, and colored designs applied and still be a "Colonial chest." We shall, however, merely indicate the basic, more simple early chest.

Most of these chests were made at home, of home grown woods. Thus we may choose any available wood we desire. The more common woods used included pine, birch and cherry. We also find chests made of oak, fir and beach. So do not overlook available local woods, merely because they seem "common."

Note that our reproduction is a single dovetail type, quite rare, but as pleasing as it is simple to make. No attempt has been made to hide the simple dignity of this joint, nor to hide the pins locking the joints. These points seem only to add interest to the project.

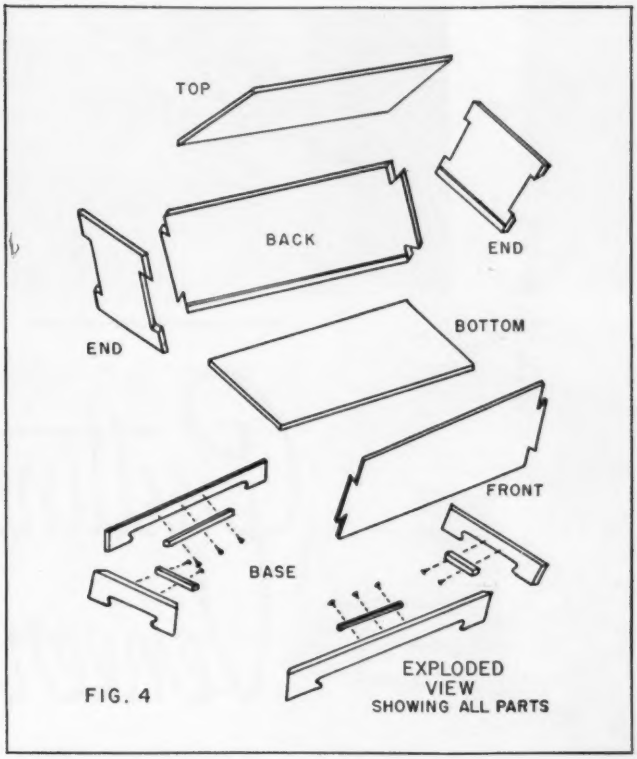


FIG. 4

This is an excellent project for the beginner or the junior craftsman, since little close fitting or detailed work is required. The dimensions are not at all critical. The chest may be enlarged for greater storage space, or reduced and used for trinkets.

Begin construction by doweling and gluing panels for the top and sides, to the dimensions shown in Fig. 1. While these pieces are drying jigsaw the four pieces for the feet (Fig. 2). The feet may be assembled with a miter joint or the more simple butt joint, according to the desire of the builder.

When the glue for the panels has dried, lay out the single dovetail on the front and back piece. Jigsaw or cut, using the layout as a guide. Then, using these dovetails as a guide, mark the slots to be cut in the ends to accept the dovetails. Do not worry about a tight fit. A reasonably good looking joint is sufficient and serves better to "antique" the appearance of the work.

Rabbet a slot ⅜" wide and about ⅜" deep, ½" up from the bottom on all four sides to receive the bottom of the chest. Make a trial assembly of all parts but do not glue. Cut the top to size and rough sand worn edges on the corners and soften all edges to indicate use.

Carefully sand all internal surfaces of the sides, top and bottom. Sanding after assembly is difficult to do well, and sanding before assembly is a good habit to develop.

Glue and screw the chest supports on to the four legs and assemble the legs. While the legs are drying the chest itself may be glued and clamped. Check to make sure that the legs and the chest are actually glued with *square* corners—or they will not fit together.

Cut recesses for the hinges in the rear wall and the under side of the top, the exact size depending upon the hinges chosen. However, do not mount hinges, lock or handles until the finish has been applied. When the chest and legs have dried, assemble the base (legs) to the chest with screws driven through the chest supports.

Now the work really begins. Sand carefully and completely the entire chest —top, ends, sides and base. Use progressively finer paper, finishing with at least 6/0 garnet paper. Make sure that all glue marks or traces of glue are completely removed. Do not stop sanding until the surface is glass smooth. If in doubt, keep sanding.

The stain or finish will be a personal choice, but if the chest is made of pine, a light brown stain is excellent. When the stain is dry, apply at least three coats of shellac or varnish, rubbing each coat until it is satin smooth. The final coat should be applied carefully and allowed to dry at least several days, then rubbed to remove the gloss. Now install the hinges, the handles and, if desired, a dummy "keyhole" lock. A true lock may be used, of course. A locking device to hold the top up also may be installed to insure free use of both hands.

PERSONALIZED BOWL

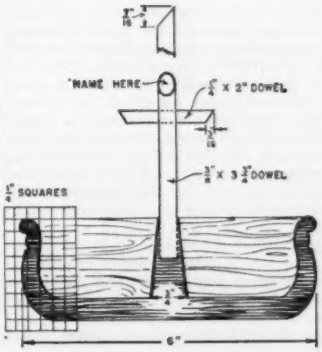
Has a Dowel Handle

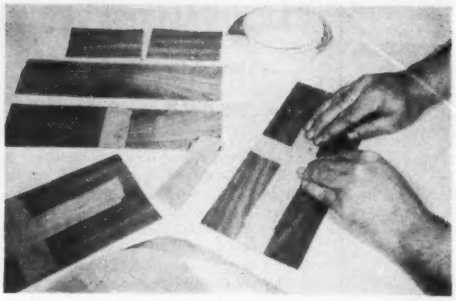
By VERNON YOUNGS

This project is rather conventional as far as the bowl part is concerned but the handle provides an eye-catching twist.

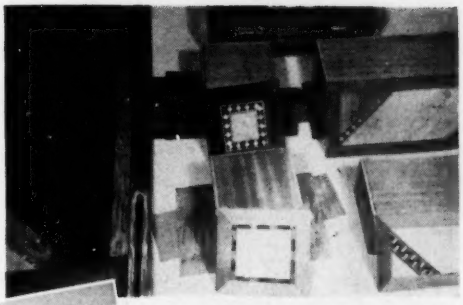
Place a block of wood (mahogany, maple or walnut) on a face plate. Be sure another scrap of wood has been attached to the face plate first with wood screws, then glue a thin sheet of paper between this block and your block for the bowl. Turn the outside of the bowl to shape. Then tackle the inside, leaving a diameter of about ¾" in the center. Drill a hole in this center piece and attach your dowel handle with glue. The dowel handle consists of a ⅜" dowel with a ¼" dowel crosspiece.

Finish turning the center part, sand and carefully break the bowl away from the face plate. Seal the bowl with a 75% varnish—25% thinner mixture and fill the wood if necessary. Add name or initials to the handle with Higgins black drawing ink. Finally, add a coat of varnish over the ink and the entire bowl.





Matched pieces are taped together.



Unlimited geometric designs are possible.

Eight woods used in this project.

Cutting Veneer WITH P

VENEER is easily cut and prepared for surfacing any area, the exactitude in cutting depending on the character of the area covered. The craftsman beginning with or confining himself to small articles needs few tools and can make his own simple clamping devices. He needs to purchase very few designs, as the veneer will produce designs within itself.

Matched veneer is obtained from consecutively cut sheets from the same log. The pieces for a match are cut on the identical grain lines of two or four consecutive sheets and the pieces arranged to form pleasing designs. A smooth board, a square and a sharp veneer knife are all the tools required for this operation.

Matched pieces are cut to the desired size, placed on a flat surface, the edges brought together and tested for accuracy of joints and character of design. If no further attention is required, select the face side and secure together with gummed tape the full length of each joint. The face side is taped so no impediment to gluing will cover the back.

The tape is removed easily by sanding or sponging after gluing. Use just sufficient tape to secure while gluing but cover each joint so that glue will not seep through and cover the surface while it is in press. Sanding tape is preferable as sponging roughens the wood and drives tape glue into the wood—which requires more sanding. Also, tape glue has a tendency to slightly change the color of some veneers.

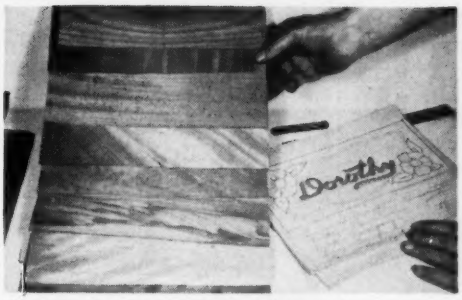
The number of pleasing geometric designs that may be employed in veneering is limited only by the imagination of the craftsman. Artistic balance should be foremost, with the skill of the user directed to choice of veneers rather than number employed. A project made mainly of a well-chosen single veneer and a small geometric design of one or two contrasting veneers is more pleasing than a conglomeration of many veneers. Boxes appear best when made of a single veneer and the top only embellished with geometric designs, though contrasting veneers may be run around the box if artistic balance is maintained. Other small objects should contain about 75% of a single veneer as a base upon which artistic contrast is built.

A jig saw will impart to veneered articles a touch of individuality not obtainable by geometric design and matched veneer. Craft articles are highly personalized and appreciated if the name of the recipient is included. This can be done with few tools other than a jig saw.

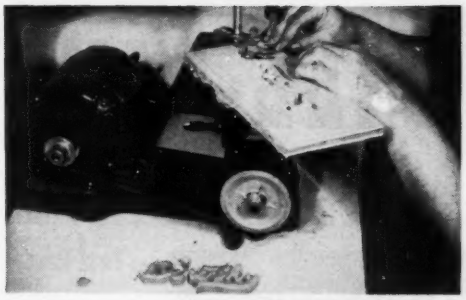
On a piece of ¼" squared drawing paper outline the size of project within which the design is formed. The size and shape of the outline will determine the type of design to employ. If a name is used with an appropriate design make the name the central theme and subordinate the balance to it. Draw name with heavy crayon sharpened to approximate width of lettering desired and outline the lettering with pencil as crayon will smudge while sawing.

The illustrated project, easily drawn freehand, used the following eight pieces of veneer: matched walnut background; three pieces striped mahogany for flower petals, one each with, across and diagonal to the grain; flower center, poplar burl; leaves, greenheart; vines, figured gum; name, prima vera. Different wood colors and grains provide contrast.

Stack veneer with waxed paper between sheets for blade lubrication, face side up and grain in proper direction. Veneer should be cut ½" oversize all around to allow veneer to be padded between two pieces of ⅛" soft wood or plywood stock and nailed around the edges outside project outline for support



The veneers themselves form pleasing patterns.



Saw completely around name and remove.

Assemble the pieces as with a jig saw puzzle.

Different names can be used.

POWER DRIVEN TOOLS

By GLENN A. McKINNEY, JR.

while sawing. After unit is nailed, paste the design on its face with glue or rubber cement so unglued paper will not roll up and tear during sawing operations.

The illustrated design, and similar ones employing several veneers, often will produce as many face units as the veneers used. Assuming but one face unit is desired, drill a hole the size of the saw blade to be used at a junction point on the saw guiding line of the name. Insert the blade and saw out the name. Much controversy rages among experts concerning blade sizes, the author using one .024 thick x .044 wide, 20 teeth to the inch, No. 61 drill for insertion holes.

Considered a little large, this blade is fast and lasts. The larger kerf is filled easily when gluing, adding contrast to inlays. Saw completely around name and remove. Drill hole at flower center and saw out. Saw vein lines in petals, later done in each leaf, and saw out the petals. As each part is removed after sawing, set it on a smooth surface in approximate order of design to assist later assembly.

After sawing off the nailed edges of the pad place the background, or largest piece of veneer, on a flat surface face side up. Assemble the pieces as with a jig saw puzzle, using the background or largest piece as a base upon which to build. When enough pieces are arranged in proper order, secure them with gummed tape. Keep all kerf lines equal and the gummed tape tightly sealed so that later filling will be evenly spaced and will remain in the kerf only.

Watch closely different grain directions of the same veneer, such as flower petals, for grain direction alone will differentiate certain parts. Use small pieces of gummed tape to hold the parts together as assembly proceeds and, on completion, cover all kerf lines so that glue will not seep through to spread over surface. Trim off any tape that extends beyond the face to interfere with gluing.

If you wish to make several projects from the same design and cutting, using different names in each, pad up the veneer and jigsaw the entire face unit less the name. After sawing assemble the complete units and secure with gummed tape. To add a name to any face unit, pad that unit with the single veneer selected to form the name and saw out.

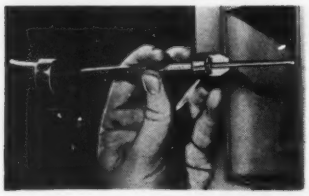
It is not necessary that the pad for these two pieces cover the entire unit, if extending ½" over on two sides, for nailing will be sufficient to keep the veneer from moving. The name veneer needs to be just large enough to cover the required area. It is attached to the face unit before padding with masking tape, which is removed after sawing. Nail the pad as close as possible to (but not into) the veneer, to provide pressure and to prevent movement of the veneer during sawing operations.

After a face unit has been assembled, taped and made ready for gluing to the base, turn glue side up on a smooth surface and work glue into the kerf lines with a putty knife or small piece of wood. It is apparent why kerf lines should be equal and gummed tape tight. The neutral brown color of resin glue worked into kerfs flush with the surface actually enhances the beauty of jigsawed articles. It is effective in the sawed veins in flower petals and leaves.

If you wish to fill the kerf lines with filler from the surface after gluing and sanding, care must be taken to exclude any glue from the kerf lines. If some glue does seep into the surface of the kerf in odd spots, later filling will be ragged and unsightly. Either method is

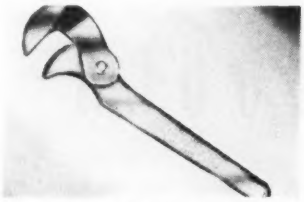
BELL-RINGERS

"Are you as nuts about new tools and ideas as I am? Well, I've hunted far and wide for these four gimmicks. I use them plenty, and they are all I claim for them. Look them over and see if you don't get the yen to use them too" . . . Ben Bell



This One Really Hits The Nail On The Head

"Nu-Nailer" they call this new tool. As clever and necessary as anything I've ever seen. Don't know how come they didn't invent it years ago. Saves fingers and tempers when nailing in close quarters. Holds all kinds of nails, including roofing and finishing nails. You also can reverse it and use it as a punch or nail set. Made of steel, plated; will take a harder beating than you can give it. Mister, from now on, wherever my hammer goes so goes my Nu-Nailer! The manufacturer was telling me how doctors, musicians, and people like that use the Nu-Nailer as "insurance" for their precious fingers. Come to think of it, that's not a bad idea for you and me too . . . **And Look--Only $1.00**



Ply Wrench Is a Tool of a Thousand Uses

Most workshoppers, I find, have more screwdrivers and wrenches than they'll ever need. I know I do. But when I came across this new Ply Wrench I said, "That's for me!" And I am glad I did. I like it because I can get into places with it that I usually skin my knuckles on when I use a regular wrench. It has a terrific gripping power and a three-sided pull. Automatically adjusts to any size from ⅛" to 1⅛". Measures 7" overall. Fact is, I use it now more than I do any of the regular wrenches which cost me three times as much, because it's so much faster and easier. No kidding, I think this Ply Wrench is every bit as practical as it is simple —and that's plenty. **Costs only $1.29**

First Really New Hacksaw In A Generation

No fooling, some guy really used his bean when he dreamed up this hacksaw. Maybe it does look like a Buck Rogers gun but, let me tell you, it's the most sensible hacksaw idea imaginable. Biggest advantage is the fact that there is no limit to the length of the cuts you can make. You see, the Padhacksaw has no frame to pass over or through the material being cut. Another thing I know you'll like—inside cuts are a cinch with this tool, just as hard-to-get-at corners are. The Padhacksaw actually is 5 or 6 saws in 1—a padsaw, hacksaw, jigsaw, keyhole saw, corrugated iron saw, shears. With that comfortable pistol grip it is an easy saw to use. Comes in two finishes:

Original metal $2.95; and chrome finish $3.95

Carpenter's Apron at Bargain Price

I bought 200 of these aprons at a distress sale just so I could offer them as a price leader. It's a real he-man's apron—rough and tough. Made of 8 oz. Grade A unbleached duck, bartacked for extra strength at pockets, neckband, waist straps. You'll appreciate the three large flared pockets for holding small tools, nails, screws, pencil, ruler, etc. And your wife will appreciate the way it will keep your shirts clean. Limited quantity. Made to sell for $1.50 or more. **While they last, 75c**

BELL SALES, Rm. 602, 666 St. Claire Street, Chicago 11, Ill.

I enclose $..... to cover the following items:

☐ Nu-Nailer @ $1.00 each ☐ Padhacksaw at $2.95 for original metal ($3.95 for chrome)
☐ Ply Wrench @ $1.29
☐ Carpenter's apron @ 75c

You will ship these postpaid. I understand that if I order two or more items you will send me at absolutely no extra cost a free book worth $1 to $3, also postage paid.

NAME.....

ADDRESS.....

CITY & ZONE.....

STATE.....

FREE!

Made a sharp buy on a quantity of $1 to $3 books in the workshop and homecraft fields. Figured I'd give you one FREE with purchase of two or more of above items to prove you can't beat Bell Sales for value.

effective but filling with glue will save an operation and time and will insure better appearance.

After the product has been prepared the final finish coat decals may be applied and permitted to dry thoroughly before finish coat is applied over it. This method will give the decal good adherence surface as well as protection from injury by finish coat. When the decal has been selected, place in position while dry and mark surface lightly in a couple of spots just inside the edges where marks will not show after decal has been applied.

Work glue into kerf lines with a putty knife.

Apply decals after sanding, filling and sealing.

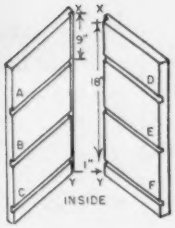
Immerse decal in warm water for a few seconds until it will slide from the paper base easily. Place the left hand edge of the base slightly inward from the limit of space the decal will occupy. Slide the decal just sufficiently from the base to cover limit marker at that point and, holding it with a finger or two, begin sliding the decal base from under it. Keep decal properly aligned while removing base as decals are rather difficult to move after complete removal of base.

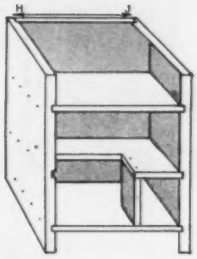
After base is removed, securely hold decal at one end and force water from under it by gentle strokes with soft absorbent cloth—from the center toward the opposite end. Repeat the process with the other end until all water has been absorbed both under and on top the decal. Decal will crinkle only if not allowed to become thoroughly dry before the application of varnish or lacquer.

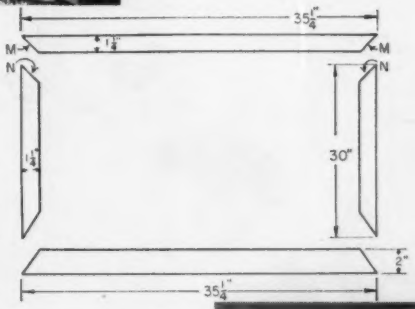
If you do not care to use the jig saw, the names can be applied with India ink. Speedball or sign writing pens are selected for size and shape according to size and type of writing desired. Write a trial name or two on paper to adjust writing to project space. The surface of the project at this stage will be very smooth, so pen should contain relatively little ink. If ink should run or blot, remove it with water immediately, before it has any opportunity to dry. Do not put pressure on the pen so it will penetrate the finish. Permit ink to dry thoroughly and apply finish coat.

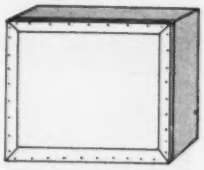
LIKE TWO HEADS, TWO CABINETS ARE BETTER THAN ONE

By G. GANNON









YOU can make these ample storage twin cabinets from spruce, Ponderosa pine, or Douglas fir. Well seasoned lumber should cost about $20 for the two; less if you piece the shelves or the back.

Procedure:

(1) Groove the two side pieces (to hold shelves) on the inside at points 9" and 18" from top. Groove again 1" from the bottom. Cut will be ¼" deep and ¾" wide at A, B, C, D, E and F. Also cut a ¼" square from X to Y on both pieces for plywood back to fit into.

(2) To slip shelves in easily sand edges a fraction smaller than the grooves. Glue and ease shelves into place. Countersink nails; putty holes. A section can be cut from the lower shelf to make a place for storing a brief case, as in the sketch.

(3) Nail stripping in back from H to J. This acts as a brace and a nailing place for the plywood back.

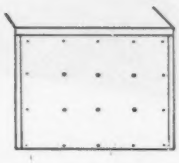
(4) Glue and nail top to sides. The top will have a ¼" overhang in back for the plywood to fit under. Sand unevenness.

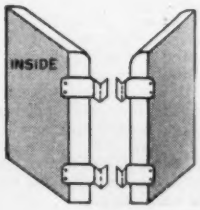
(5) Fit and glue plywood back into side grooves. Nail to stripping, sides and shelves.

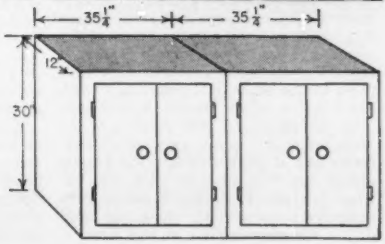
(6) *Casing:* The top piece and two sides are mitered at points M and N. Miter bottom corners also. (Note: Miters are not right angles.) Glue and nail to cabinet.

(7) *Doors:* Round all four outside edges. Cut a ¼" section from inside doors at top, bottoms and outer sides. Lay cabinets flat to apply hinges.

(8) Prime coat wood. Reprime doors. Paint or enamel cabinets. Fit friction catches. Install knobs.



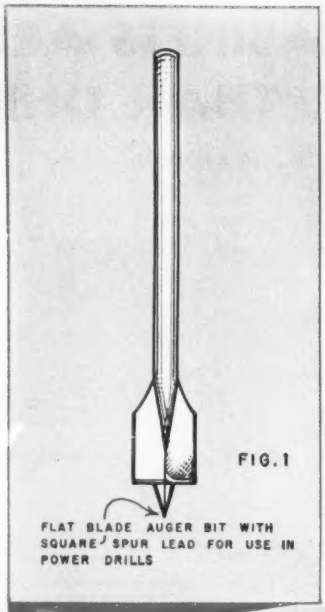


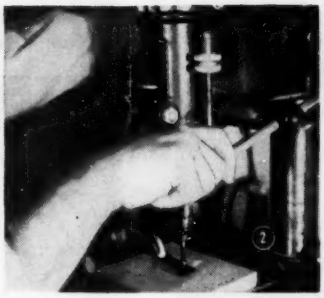


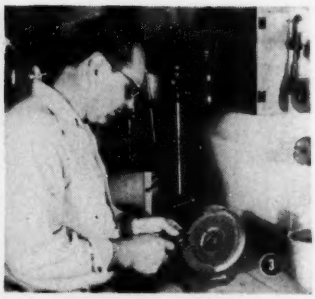
BILL OF MATERIALS

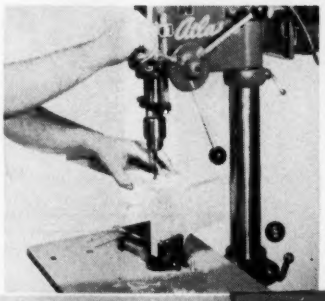
The following is for one cabinet; double your order for the two cabinets:

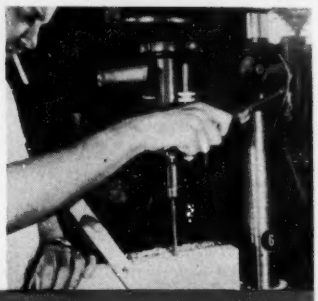
Top—11¼" deep x 35¼" long. ¾" lumber.
Sides—29¼" high x 11¼" wide. ¾" lumber. Make two.
Back—29¼" high x 34¾" long. Use ¼" plywood.
Doors—27½" x 16½". ¾" lumber. Make two. Prime coat immediately.
Casing to Hang Doors—¾" lumber. Bottom piece is 2" wide by 35¼" long. Two side pieces are 30" x 1¼". Top piece is 35¼" x 1¼".
Shelves are a fraction less than 35" long x 11" deep.
Hardware—Glue, friction catches, 2 pairs ¾" offset hinges. 2" 6D finishing nails, 1½" 4D finishing nails. Door knobs.











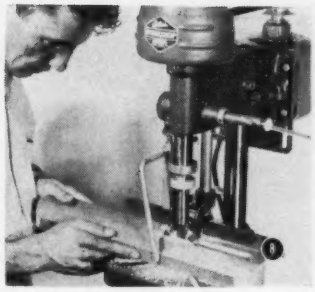
HOW TO Set Up

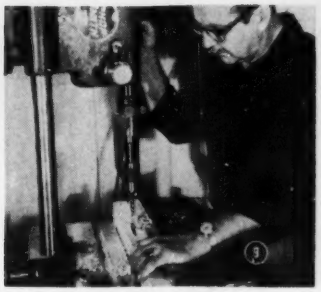
WE ARE illustrating here an assortment of drill presses and small power hand drills and will point out some of the advantages of owning one or more of them. For example: A bench type drill press can be set on one end of any work bench where it will remain. A floor type press can be placed with its back to the wall, where it requires very little space. Either one of these machines will handle almost any kind of a portable job, but when it comes to drilling holes in anything that is not portable, the power hand drill is the answer. More on this later.

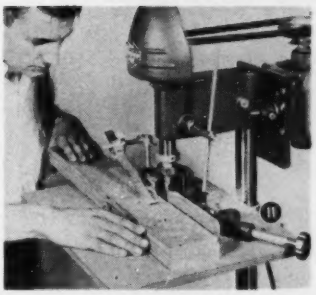
With the ordinary floor or bench type drill press we not only are equipped to do all kinds of drilling in wood or metal but, with the addition of a few inexpensive accessories, these machines will do sanding, buffing, routing, mortising, shaping and even small spindle turning.

When setting up any machine permanently, arrange for plenty of shelf and cupboard space behind or near the machine for storing extra tools and equipment. It helps to keep the shop neat, and you will know where the tools are when you want them.

Hardened steel twist drills are used for drilling metal and these also can be used for wood. Twist drills also are made for drilling woodr (do not use these for drilling metal). Then we have the older type straight fluted drills for drilling wood. And last, we have the new flat blade auger bit. This is an ideal piece of equipment for drilling and will work well in the drill press as well as in any power hand drill. We are picturing one of these bits in drawing Fig. 1. The same type bit with a screw lead is available for hand use in a regulation brace.







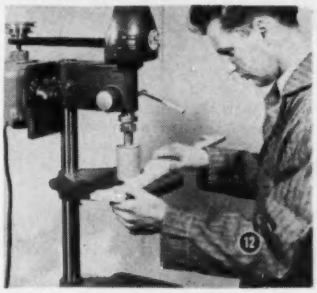


Fig. 2—A piece of band iron has been drilled and is clamped to the drill press table. A tap is set in the chuck and the belt driven by hand to obtain a true screw thread.

Fig. 3—A power driven emery wheel grinder for grinding chisels, drills, etc.

Fig. 5—Material is clamped in drill vise for accurate drilling.

Fig. 6—Drilling holes for doweling. Table is tipped to a vertical position.

Fig. 7—Drill press head is swiveled to one side for drilling dowel holes in long stretcher.

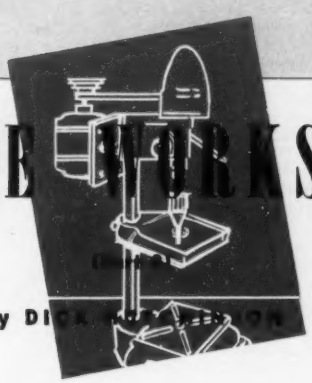
Fig. 8—Routing on the drill press. A fence, hold down and guard arm insure accurate work.

Fig. 9—The multiple purpose machine fitted up for mortising. The saw fence makes a good gauge for cutting long mortises.

Fig. 10—Cutting ½" mortise in 3/16" birch plywood for assembling with pegs.

Fig. 11—Shaping cutters with attachments are being operated on the drill press for cutting beads on either side of a stretcher.

Fig. 12—A drill press fitted with a drum sander does especially good work on inside curves.



A HOME WORKSHOP

By DICK [illegible]

Instead of the screw lead required on hand operated bits this bit has a square spur lead that centers it for accurate drilling. Never try to use an auger bit with a screw lead in a power drill. It is very dangerous.

When drilling steel use a sharp drill and use cutting oil to lubricate so that the drill will not burn. Too, a slower speed is required for drilling steel. Most of the modern drill presses are equipped with four-step pulleys which makes it possible to change speeds in a few seconds.

If, in drilling steel, the drill becomes overheated and begins to smoke, either the steel is too hard or the drill is dull. Better check the steel with a file. If it is too hard to file, it is too hard to drill. Keep your drills sharp. Overheating a drill will ruin it. I have an emery wheel set up next to the drill press where it is handy for touching up a drill when necessary (see Fig. 3).

Here is a hint that will help in tapping screw threads in metal: So often it is difficult to get the thread started straight by hand. Drill the hole to be tapped. Put the tap in the drill chuck, then clamp the piece to the drill press table as illustrated in Fig. 2, and turn the belt by hand. It's a simple operation and the threads will be true. Don't, however, try to do this job with the power on; it would ruin both the tap and the work, and might result in injury to the operator.

Many times the shank of a drill becomes marred and it is impossible to read the drill size. It is a good idea to have a micrometer handy for measuring drills. This valuable instrument will save a lot of headaches in that it will eliminate scrapping material which has been drilled wrong.

A drill vise is shown in Fig. 5. This is a big help in lining up component parts for accurate drilling, as well as many other jobs where the work needs to be held firmly. Another method employed in edge drilling, particularly for doweling two pieces together, is shown in Fig. 6. Here the table is tilted to a 90° angle. The pieces to be drilled are lined up, squared, and centered under the drill, then clamped tightly and the holes

Fig. 13—Buffing brass candle cups on the drill press. ½" felt buffing wheel is mounted on spindle.

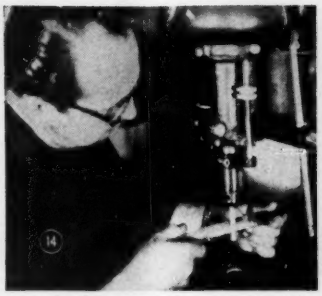


Fig. 14—Making small turnings in the drill press. Turning is done with a rasp.

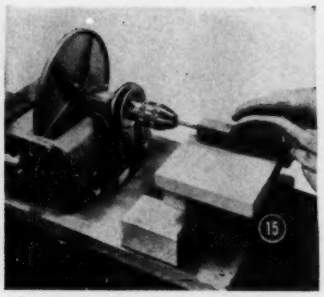


Fig. 15—One type of disc sander with drill chuck fitted to opposite end of shaft for horizontal drilling.

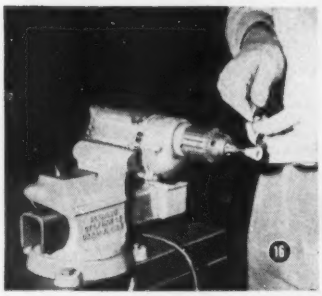


Fig. 16—Here the power hand drill is clamped in the vise and a small mounted emery wheel used for grinding a twist drill.

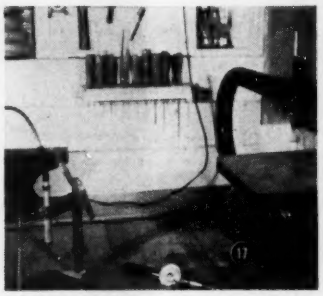


Fig. 17—The flexible shaft, set up in the drill press stand, is shown at the left.

Fig. 18—Here the flexible shaft fitted with a ¼" mounted emery wheel is being used for gumming a circular saw.

drilled. The holes must be the same in each piece to be doweled or they won't match when the dowels are set in. Coat the dowels and the contact surfaces of each piece with glue, drive together and clamp to dry.

Fig. 7 shows how the bench drill press head is swiveled to one side to drill dowel holes in the end of a long stretcher. Most of the floor type presses will handle jobs like this by merely lowering the work table, or the table may be swiveled to one side and out of the way, but even for drilling long stretchers for doweling the most accurate method is to tilt the table to 90° and clamp the piece to the table as described above.

Often in woodworking we have occasion to cut a recess—sometimes to a certain depth and sometimes all the way through the material. This is known as routing and is done on the drill press with special routing bits. The cutting ends of the routing bits are ground square, rather than tapered as is the case of twist drills. If the work need not be too accurate it may be done more or less free hand. If the press is equipped with a fence, so much the better. If not, clamp a strip of wood to the bed with "C" clamps and use this as a guide for the routing. Fig. 8 illustrates the perfect set-up for accurate work.

Here is a suggestion which may be of value to die sinkers or anyone who has occasion to do routing in steel or any other metal. For this work we grind off square a twist drill—of the size needed—and sharpen it and use it in the same manner a router bit is used on wood.

Mortising is another cutting operation done on the drill press. This is illustrated in Fig. 9. In this case the drill press set-up on the multi-purpose machine is being employed. This is just one of the many jobs which can be performed on this versatile machine. The saw fence provides a guide for the work; here the mortise is being cut without a hold-down.

For this work a special mortising bit is used. In setting up, the bit is encased in a square chisel which in combination cuts a square mortise. Ordinarily the hold-down attachment should be used when cutting mortises. Fig. 10 shows the operator cutting a mortise in 3/16" birch plywood before assembling with pegs.

Fig. 11 shows the drill press set up for and doing a job of shaping. Many craftsmen are turning to this method of shaping. The attachments are not expensive and are very efficient. Particularly where space is limited, this method eliminates the necessity of crowding in an extra machine. This attachment provides a speedy method of putting a finish on the edges of a table top, or for running out picture frame molding, or in fact any sort of molding for decorative trim. It will save a lot of hand work and, in most cases, will do things that just cannot be performed by hand.

Most of us appreciate the convenience of a drum sander set up as illustrated in Fig. 12, especially for contour and inside sanding. We find too that the drill press provides an excellent method for buffing and polishing small parts. Fig. 13 shows the press set up with a small felt buffing wheel, on which the operator is buffing small round brass candle cups. A machine bolt is set through a ½" x 3" felt buffing wheel and locked with a nut; then the end of the bolt is set in the drill chuck. A good grinding compound is used for the buffing.

So often we need to turn a small wood or metal piece for some special job, and unless a lathe is available this job has to be sent out or slowly fitted by hand. Set up the piece in the drill chuck and, using a file, turn it down to shape as is being done in Fig. 14. Fig. 15 shows one of the unusual types of disc sanders which has a drill chuck attached to the extended rear end of the shaft. This arrangement is ideal where a lot of horizontal drilling is to be done. This is excellent for drilling for doweling. If the table is adjusted to the right height and if stop blocks are clamped or nailed on, pieces for doweling can be drilled accurately.

All of the above operations can be performed on the bench or floor type machines, but how about portable drills? The power hand drill is almost a "must" in any well equipped shop. A ¼" power hand drill will handle most of the home craftsman's and hobbyist's jobs, and will take all types of drills to ¼" shank. Now, in fact, many of the drill manufacturers make drills up to ½" with a ¼" shank, for use in any drill with a ¼" chuck.

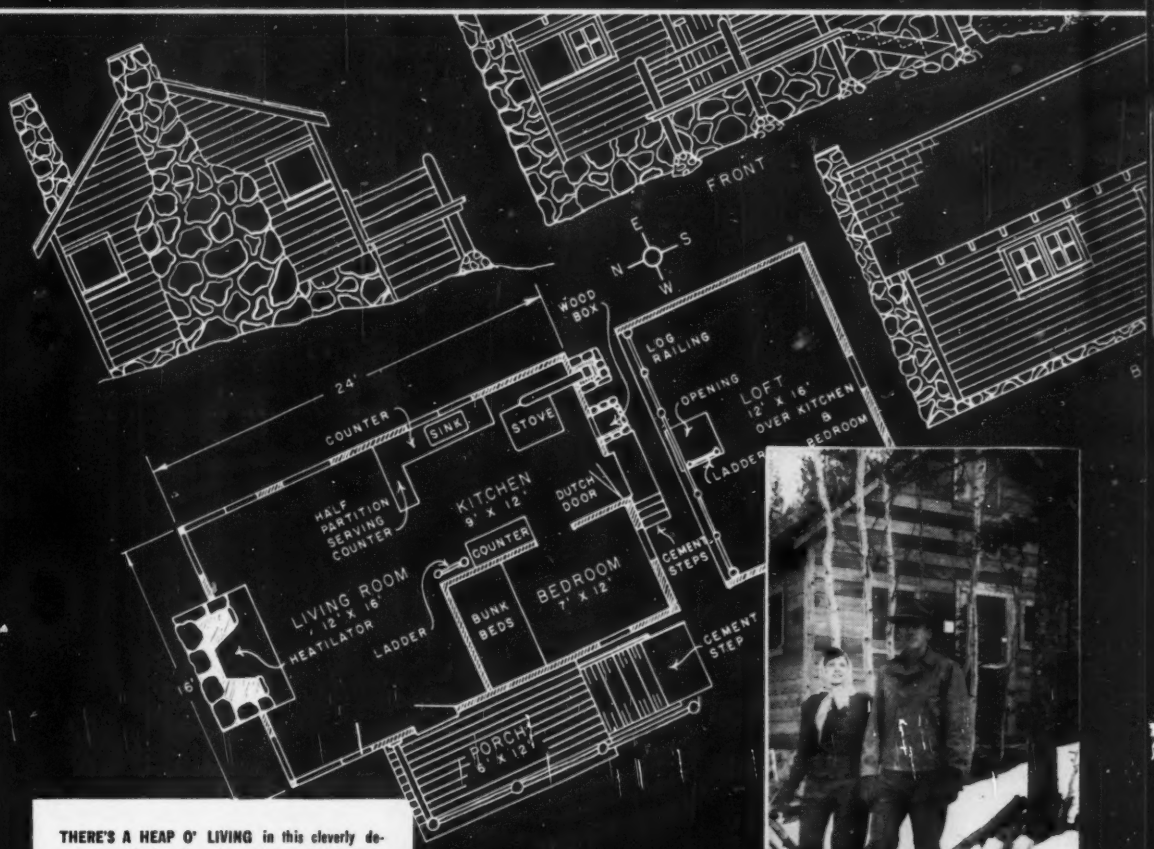
Stands for most of these drills also are available, so that the drill may be converted quickly and easily to a small bench drill press. Fig. 16 shows the drill clamped in a machine vise where a small mounted emery wheel is set in the chuck and used for sharpening twist drills.

Another type of drill, particularly for the hobbyist or the jig saw enthusiast, is the flexible shaft. This little machine comes equipped with a small motor and,

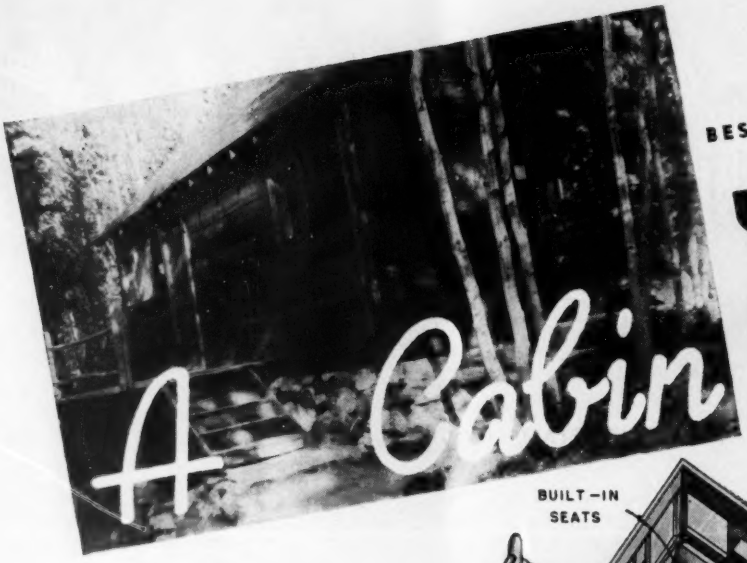
(*Continued on page* 368)

THE HOME OWNER

A SECTION DEVOTED TO HOME REPAIRS • MODERNIZATION • MAINTENANCE • GARDENING

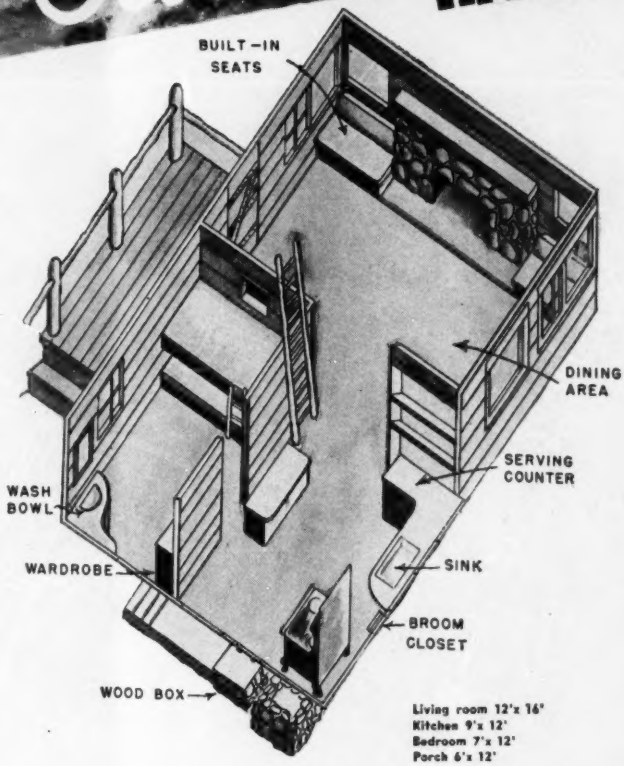


THERE'S A HEAP O' LIVING in this cleverly designed woodland cabin. Unpretentious though it is, rustic charm and downright comfort are apparent in its outward appearance and interior arrangement. This is a do-it-yourself project in every sense of the word. Construction details on following pages.



BY
BESS LIVINGS LEE

A Cabin YOU CAN AFFORD



HAVE you ever dreamed of spending part of your time in a different world; one in which the stress and strain of civilization does not exist, where troubles vanish and you can regain your perspective?

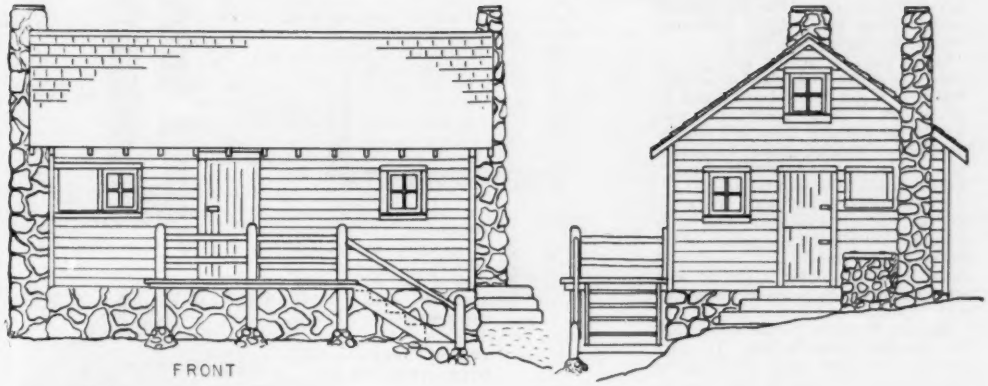
Here is your solution—a cabin retreat, close to nature. Such a place can be yours for less than you think, if you build it yourself. The cost will vary, depending on the price of materials in your locality, but the total should be well under $2000.

Choosing a site is important, of course. Lacking the price of a piece of land, as we did, there still is a way. By contacting your nearest U. S. Forest Supervisor or Forest Ranger or the Department of the Interior, Bureau of Land Management, Washington, D.C., you can get information about many interesting plots of land which may be leased from the government by the year for a small sum. These are mostly undeveloped sites and, though located in isolated areas, are accessible by automobile.

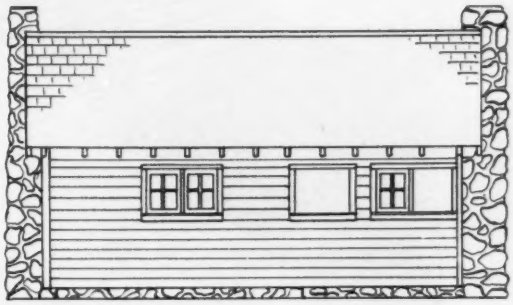
The cabin design is so simple anyone with sufficient interest and enthusiasm can construct it himself. No previous building experience or special skill is necessary. The aim is not a polished and perfect appearance; a hand hewn look is desirable for this type of building. It is a sturdy, unpretentious cabin, planned primarily to provide comfort and protection from the elements. It consists of three rooms and a loft. No citified lighting or plumbing is included, but it is compact and practical as well as pleasing to the eye. Some of the features that add to its comfort and livability are: cross ventilation in every room, plenty of built-ins providing storage space instead of dust-catching corners, no waste space.

This cabin was built on a steep wooded hillside in Arapaho National Forest, Colorado. A sparkling mountain stream flows a few feet below the cabin. Quaking aspens, pines and spruce trees surround it. Although heavy snow blankets the ground five or six months of the year, the sunshine is so intense, the air so clear and dry, that the outdoors is enjoyable in any season. This makes a fireplace an essential feature.

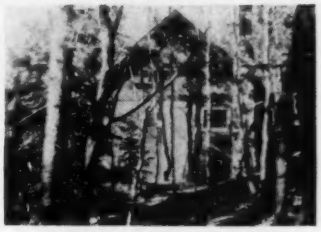
As many native materials as possible were used, to cut the cost and to make the cabin appear as part of its setting. As specified by the Forest Service, it must fit harmoniously into the landscape —no bright colors, just the soft natural tones of wood and stone. The trees we cut to clear the land for building were used for beams and in various parts of the building. No power tools were used in our construction, but much of the work could be done in your home work-



FRONT

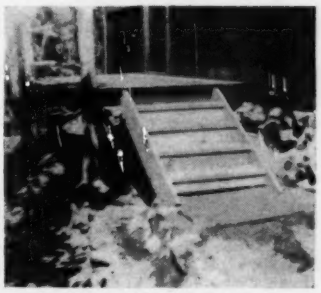


BACK



Cabin appears as part of its setting.

We used native rock and cement mortar.



Porch posts and rails are peeled pine.

shop, hauled to the site and assembled there, to speed completion.

The cabin measures 16′ x 24′; height, 8′ to the eaves; and 14½′ to the ridge. The steep pitched roof prevents the accumulation of heavy snow and provides sufficient head room in the loft. Additional space is gained by placing the top of the loft floor joists 1′ below the top of the plate.

The foundation, fireplace and chimneys are of native rock and cement mortar. Cedar shingles were used on the roof. They are more durable than other types of roofing in the hail storms common to that vicinity. The cabin is finished inside and out with 8″ cedar siding. Linseed oil protects both siding and shingles from the weather and brings out the golden tones of the wood.

The first step in building is to stake out the size of the cabin with building twine. Square up the corners and build a form of scrap lumber on the inner side, as high as the foundation is to be. Plan to have the foundation at least 8″ thick and set into the ground below frost level. Use mortar next to the form and face it with rocks.

The art of attractive rock work lies in placing them so that the mortar is well back from the face. Let the rocks protrude beyond for an interesting effect.

Other materials suitable for the foundation are cinder or concrete blocks or solid concrete, reinforced. In any case, concrete footings placed below frost level are necessary. Use care to make sure the foundation is perfectly level both ways. Three openings about 6″ x 12″ are left in the foundation for the circulation of air to prevent dry rot in the wood. They are covered with wire mesh to keep rodents out. The fireplace masonry is put in at the same time as the foundation. This is a concrete slab extending 3′ outside and 2′ inside the cabin, the height of the foundation, and also extending below frost level.

To secure the building, you will need to imbed 8″ bolts at 3′ or 4′ intervals in the top of the foundation wall, extending 2″ above the concrete. Four 2 x 6 plates are then marked and holes drilled to take the bolts. They are slipped into position and tightened down securely to the foundation with nuts. The plates should be flush with the outside of the foundation.

The sill is made by spiking together three 2 x 6 pieces. This rests on four concrete pilings about 20″ square, built to a height that brings the top of the sill level with the top of the plate.

Cut 2 x 6 floor joists and place them 24″ apart, crosswise on top of the sill, spiking them at each end and in the center. Then lay subflooring of 1″ material, diagonally on the floor joists.

The frame is built of 2 x 4 material, spiked together, the studdings placed 16″ apart. This is constructed on the ground and lifted to position, bracing it to stakes in the ground until it is securely spiked in place. Double 2 x 4's are used at the top and bottom, around the door, fireplace and chimney openings. Make the window openings the size of your sash

plus the thickness of the material to be used in framing them. The frame should extend beyond the studding, inside and out, the thickness of the siding.

Rafter supports at the ends of the cabin then are cut and spiked in position. Rafters of 2 x 4 material are placed on 24" centers to lessen construction cost. Due to the fact that snow will not accumulate on the high pitched roof, there will not be much weight to support. Rafters extend 1' beyond the frame.

Building paper is put on the frame before the siding is applied. This runs crosswise, outside and is attached to the studding with small nails, lapping it about 1½". The siding is put on with cement-coated nails to prevent loosening with expansion and contraction.

Sheeting is nailed to the rafters and the shingles nailed to this. If cedar shingles are used, place the sheeting boards about 1½" apart to allow the circulation of air under the shingles to prevent rotting. If composition roofing is used, make the sheeting solid. Lay a double row of shingles at the bottom over the eaves. Follow the manufacturer's instructions for the particular type of roofing you are using. The ridge is two 1 x 4s.

Barn sash 24" x 29" that open in are used throughout, except for the stationary windows in the corners of the living room, in the dining area and beside the kitchen stove.

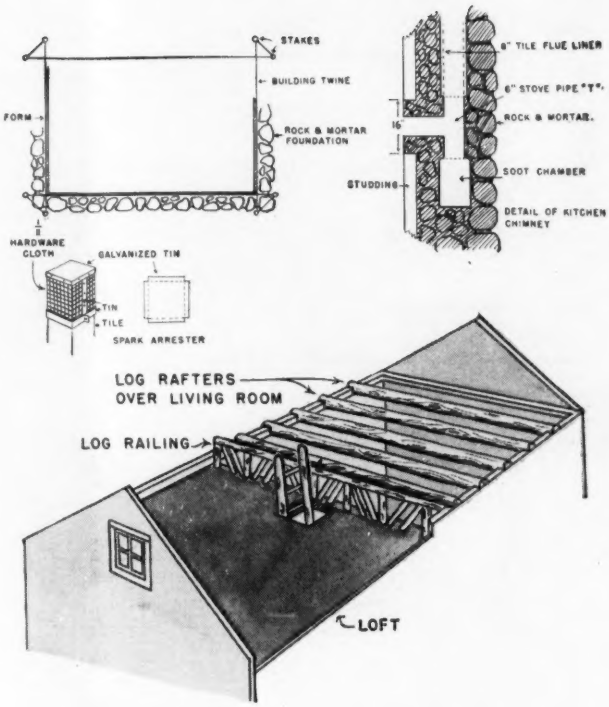
Corner trim, window and door trim is 1 x 4 material, nailed on top of the siding, thus saving fitting problems at these points.

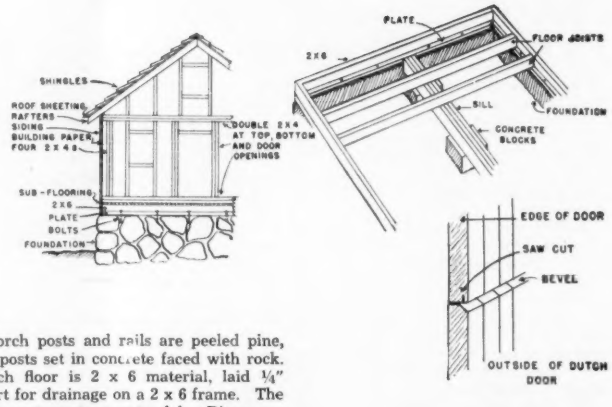
The fireplace is built around a Heatilator to insure perfect draft and to simplify construction. Complete instructions are furnished with the unit. A fireplace opening 8' long and 4½' or 5' high is about the right proportion for a 36" Heatilator. The rock work extends inside the cabin only 6" to conserve space and is built entirely outside above the mantel. The firebox is made of firebrick to withstand intense heat, and the hearth is concrete extending ¾" above the finished floor. A cleanout is built into the fireplace floor so ashes can be removed from the outside.

The fireplace chimney is pinched in to about 30", starting 8' off the ground. 12" x 12" tile flue liners are used. Both chimneys extend 18" above the peak of the roof as a fire safety measure, the flue liners projecting 4" above the rock work. Spark arresters and metal flashing where the chimney and roof meet are essential. The former is easily constructed (as shown), using bolts to hold the parts together and to fasten the metal band that slips over the tile, to hold it in place.

The kitchen chimney measures 30" square, tapering to about 20" at the top. 8" tile flue liners are used. The opening in the wall is placed at the proper height for your stovepipe. Construction is shown in the diagram.

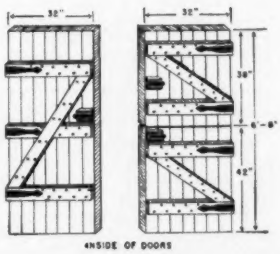
A concrete woodbox, faced with rocks is built into the wall next to the range, flush with the inside wall and extending outside about 2'. It has openings on both sides so it can be filled from outside and emptied from inside. The hinged top, outside, slopes slightly for drainage. The inside door is hinged at the bottom.





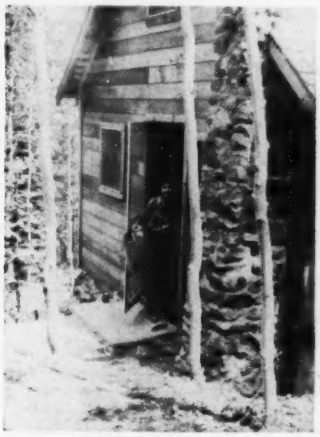
Porch posts and rails are peeled pine, the posts set in concrete faced with rock. Porch floor is 2 x 6 material, laid ¼" apart for drainage on a 2 x 6 frame. The steps rest on a concrete slab. Risers are 6" high, treads are three 2 x 4s spaced ¼" apart and extending ½" beyond the risers. A 2 x 12 at each end supports them. The whole unit is built separately and attached to the porch. It is a good idea to imbed a thin piece of iron in the concrete slab for a footscraper.

Sturdy doors are built of 2 x 6 tongue and groove fir car flooring, braced with 1½" x 3" material bolted in place. Garage door hinges and latches are effective and practical, yet inexpensive. The Dutch door in the kitchen is both picturesque and efficient, providing ventilation without floor drafts. It is made weatherproof by beveling the top of the lower door and making a saw cut in the



upper one, as shown in the diagram. Moisture which collects at the joint runs back only as far as the saw cut, where it drops onto the beveled edge of the lower door and slides off.

Built-ins are used as much as possible to conserve space. Seats at either side of the fireplace are hinged for storage, one for wood and the other for general use. Bunk beds have storage drawers below and niches built into the wall beside them. A cabinet is built under the wash bowl-dressing table and a wardrobe extends into the wall on the opposite side of the room. A partition as high as



We built a Dutch door for the kitchen.

the kitchen counter makes an efficient serving center, with cupboards under it and shelves above, allowing the maximum amount of ventilation in the kitchen.

On the opposite side of the partition, a cupboard opens into the dining area. There are cabinets under the sink and small ones built into the wall at each side above it. A broom closet sets into the wall between stove and sink. Another cabinet on the opposite wall gives the kitchen ample storage space. Round corners on the built-ins reduce the hazards.

Cedar shingles withstand Colorado's hail storms.

The mantel is made of 3 x 10 material. Pine flooring is used throughout.

After the walls are sealed, the corners are finished with quarter-round, thus eliminating the tedious task of fitting the siding together neatly. The opening cut in the loft floor is faced with 1 x 4 material. Edge of loft, opening and hearth are all finished with quarter-round.

A peeled aspen ladder leads to the loft. This is bolted together and anchored to the floor and wall, at the top, with long screws. A smaller ladder of the same kind is attached to the bunk beds. A decorative aspen railing is built at the edge of the loft. The living room beams are peeled lodgepole pine. All the log work and the floors are finished with penetrating floor seal. Six coats were used on the ladders to provide a durable finish for the many feet that will ascend it. The walls and mantel are given two coats of varnish and linseed oil mixed.

The Indian motif seemed most appropriate for decorating this cabin and is used to add a touch of color in various places. A simple design is painted in rust, black and white on a wide board over the shelves that separate kitchen and dining area, on both sides. We plan to decorate the bedroom mirror in the same manner and paint several wooden plaques with Indian bird designs for the living room, with a large one for over the mantel. Grotesquely gnarled tree limbs help give it a woodsy look. Warm yellow draw drapes bring sunlight indoors.

In time we expect to build appropriate furniture of peeled pine and aspen, build a roof over the back door and dig a well so we may have running water at the sink.

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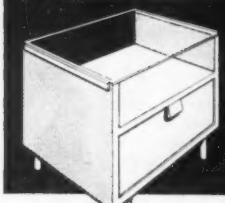

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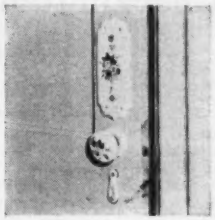
China Door Furniture



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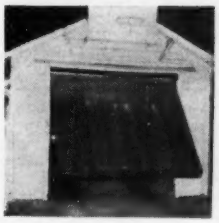

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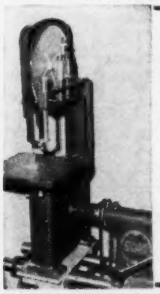

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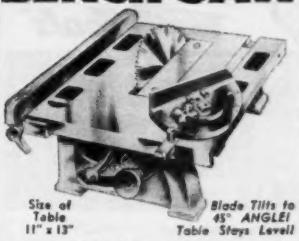

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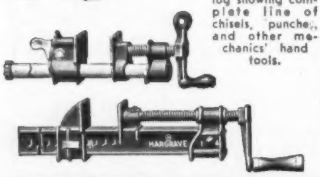

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ABOUT THE HOME

Checking and Adding to House Wiring

By L. J. SMITH

THE first domestic use of electricity was, of course, for lighting—to replace the smelly, dangerous kerosene lamps which gave such limited illumination. Electricity actually serves the home in three ways: light, heat and power.

A 1924 Washington State survey showed most households using electricity in only five or six ways: usually the fan, curling iron, lights, toaster, washing machine and ironer. The plug-in radio, range and refrigerator were just coming in. Today, there are 60 appliances for the home, not including man's shop tools. We use the potent "juice" in more than 25 ways in most homes, the range and water heater being the chief load builders and therefore needing the most judicious use to keep electric bills down.

Since home uses of electricity are on the increase, whereas the average house wiring was installed long before this unexpected development, the most important item right now is to take inventory of one's wiring. Why? Every year 25,000 American homes are badly damaged by inadequate wiring and improper use of electricity, snuffing out some 500 lives.

Home wiring falls into two classes—those which have three wires leading from the distribution system into the service box (Fig. 1) which contains the fuses and switches, and circuits; and those which have only two lead wires. In

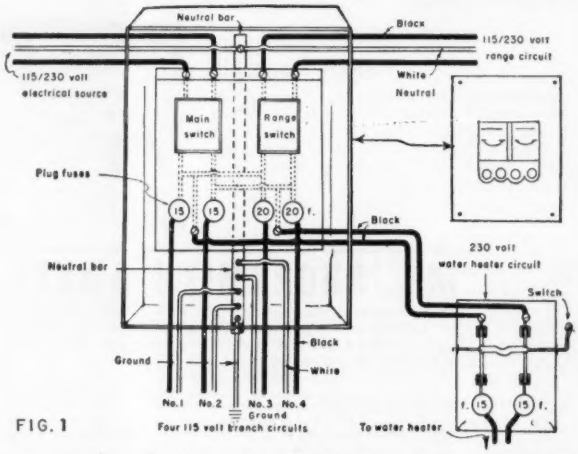


FIG. 1

Entrance and service panel wiring, complete with wiring to water heater. Note the white, or neutral wires.

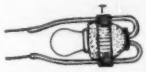


FIG. 2

Test lamp; weatherproof non-metallic socket, 15 watt lamp, and friction tape, "T" to hold wire terminals in place.

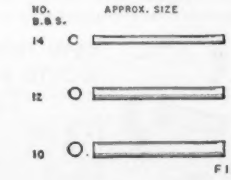


FIG 3

Maximum fuses for safe loading of rubber covered house wiring.

the first case, the user will have at least a range and likely a water heater which uses much more electricity than the range. A three-wire system is essential for this load. In the second, there would be lights, numerous appliances, radios, and the washing machine, ironer, etc.

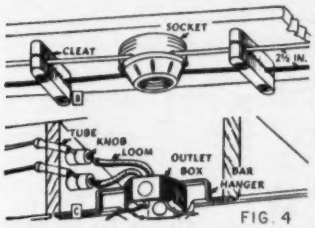
In either case, some of the circuits are apt to be overloaded and some using oversize fuses. The two-wire system should be brought up-to-date with the 115-230V three-wire system with a new entrance box, preferably the latest type with the automatic "kickouts" for overloads instead of screw-in fuses.

Check each circuit for wire sizes and to learn just where they are and what lights and outlets are on each circuit. Unscrew all fuses except for one circuit, and go over the house (in daylight) trying all the light switches and outlets to learn which are on that given circuit. A short wire test lamp (Fig. 2) with nonmetallic socket is most useful for this work and for emergency checking.

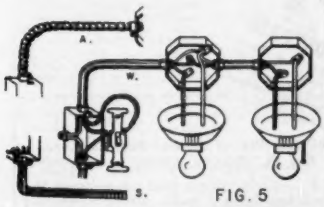
Take notes on the check-up, getting the wattage of the lamps on a given circuit, plus that of the appliances used, marking each circuit, No. 1, No. 2, etc., for future reference. Add the wattage of each circuit and divide by 115 to get the amperage. Then check the size of wires and fuses (Fig. 3). Never use a fuse larger than that recommended for the given size wire, but cut down on the load on that circuit.

Want to burn your house down?

If the wiring proves too light, better get an electrician to run in a new circuit or larger wire. And don't delay. Get the right foundation for safe future expansion.



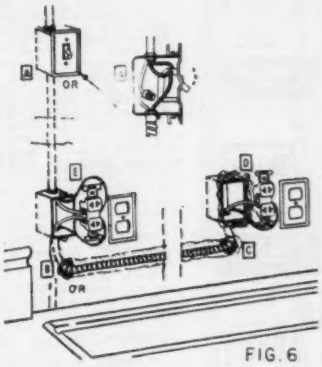
Open wiring, with porcelain tubes, knobs and cleats.



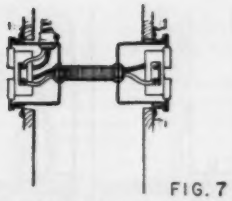
Three types of cable wiring armored (A), sheathed (S) and light metallic conduit (W).

Now, about more outlets. It's too bad that we didn't have one on every wall of every room but the bathroom. However, most of us didn't look that far ahead. So we want more wiring. Extensions are made by "knob and tube" wiring for the basement and attic, with separate wires 2½" apart (Fig. 4); by armored (A) or by sheathed (S) cable which contains two or three wires of the right size (Fig. 5); or by the light "thin-wall" conduit (W) through which the wires are drawn after installation. For use by the home owner, the first two are faster and easier to install; also less expensive.

You can run another outlet from one



Adding another outlet, either from above or below.



Running outlet through wall to other room. They don't have to be opposite each other.

in the same room (Fig. 6), or through the inside wall from one in another room (Fig. 7); from the light switch if an outlet is wanted on that side of the room, or down from the attic or up from the basement (Fig. 8). Let's take one from the outlet, for example: Tell friend wife it's going to muss up things a bit. Also, be sure to unscrew the fuses on that circuit.

The wiring may come down from the light switch (A, Fig. 6) on the same wall —if three wires can be made available at the switch as shown. Or up from the basement as at "B." Holes are cut through the plaster at "B" and "C," any distance apart, to get the conduit to boxes "E" and "D," which should be close to studdings. Then gouge out a groove in

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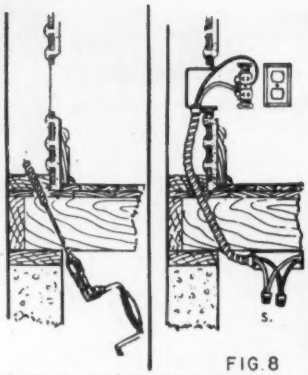


FIG. 8

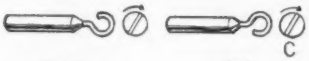
Getting into walls; (S) solderless connectors.

the plaster for the conduit—armored cable, in this case. Pull it through and connect securely to each box as shown in Fig. 7. Be sure that the terminal wires are screwed firmly in place at the outlets with ends bent properly (Fig. 9), and connected to designated color terminals. Check outlets to be sure that the "juice" is available, before replacing baseboard.

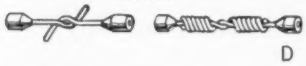
It also is wise to have some friend who

a.—Cutting wire. Remove insulation by cutting at a slant—as in sharpening a pencil.

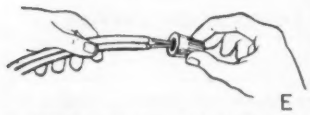
b.—Top splices. For connecting the end of one wire at a point on a continuous wire.



c.—Connections at screw terminals. Bend end of metal wire into a loop to fit around the screw.



d.—Splicing wire together. Remove about 3" of insulation from each wire and cross wires about 1" from insulation; make 6 to 8 turns using fingers and pliers.



e.—Solderless connectors eliminate the need for soldering joints. Simply screw the connector over wires as shown. Made of insulating material so wires need not be taped.

FIG 9

f.—Taping. After wires are soldered they must be insulated. First, wrap joints with rubber tape, then cover with friction tape.

Illustration courtesy Sears, Roebuck & Co.

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is electrically trained, if available, to check the wiring. Also, better buy a pamphlet on home wiring; there is a number of good ones available. Study the particular job you are to do just before going at it. The directions should be given, step by step; if not, look for a more concise booklet.

The open "knob and tube" wiring for the basement is very simple. It can be fastened to the under edge of the bare floor joists, or if the basement is to be ceiled eventually, by running the wires through the joists in porcelain tubes or heavy loom (Fig. 4), for added protection.

Now is the time to get up-to-date on your home wiring before purchasing additional electrical equipment. While you are at it, better give some consideration to the wiring requirements for that electric fast clothes drier; they are coming in very fast.

Woodworkers' Information Department

By Frank Hegemeyer

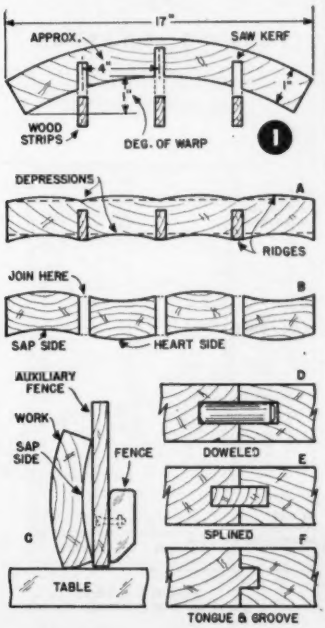
Associate editor

Q. I have an old drop leaf table on which one of the leaves is badly warped. This leaf is 17" wide and I was wondering if it could be straightened. How should one go about doing this? If it is necessary to make a new leaf, can it be made from a single board or would it be better to glue up several boards? How wide should they be and what kind of joint is best to use?

Elmer G. Post
Kingfisher, Okla.

A. The degree of warp, as reproduced in Fig. 1, is such as to leave only two courses open to eliminate the warp. If the leaf has a downward bend as shown, it can be straightened by making a number of saw kerfs on the underneath side and inserting wood strips slightly thicker than the width of the kerfs. The strips accomplish a spreading action of the stock; therefore, the success of this method depends entirely upon the thickness of the strips in order to bring the board to a level plane. After the strips are glued in, the leaf has an appearance as shown at A. The depressions and ridges then are planed off.

Another and more satisfactory method is to re-saw the leaf into narrow boards and, gluing them together with the heart and sap sides alternating as shown at B, resurfacing them as previously mentioned. If the boards are to be jointed on a jointer the setup at C is recommended. Either of the three types of joints illustrated at D, E and F may be used satisfactorily. If a new leaf is preferred it would be unwise to use a single board since it invariably would acquire a warp similar to the original one. One made up of three or four boards of varying widths to equal the overall 17" width would be better. These are glued together in the manner prescribed previously.



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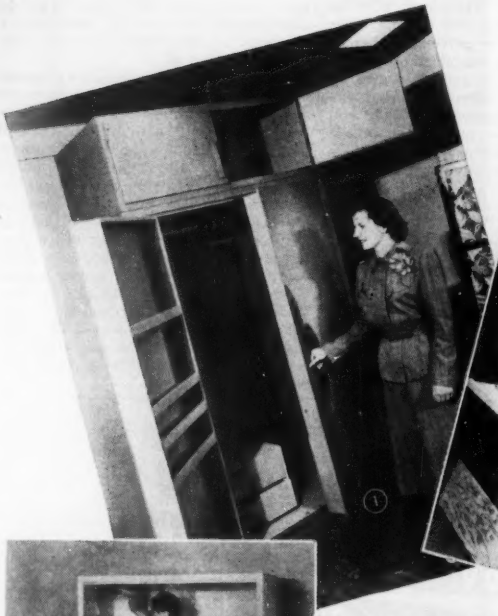

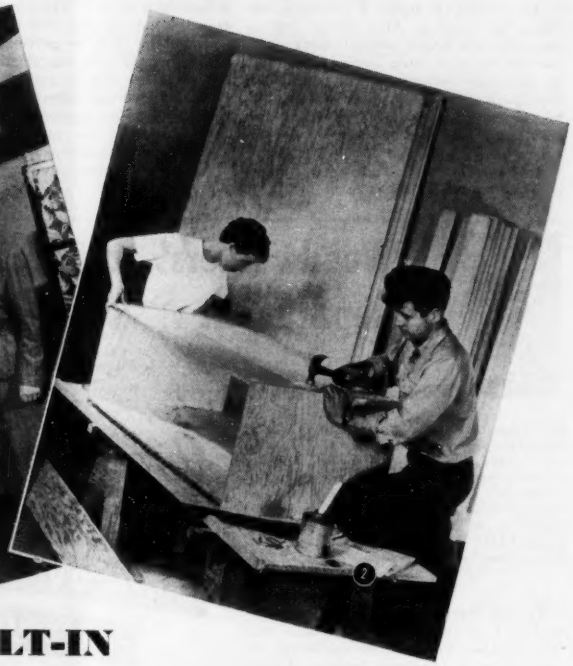

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By

PERRY S. GRAFFAM

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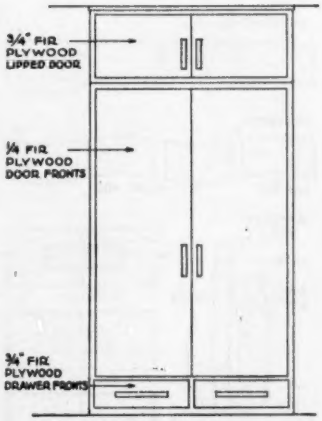
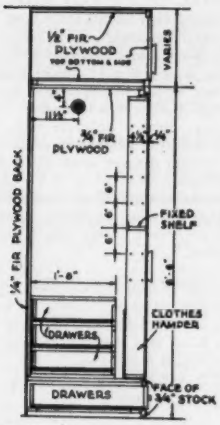


FRONT VIEW
SHOWING SHELF DOORS CLOSED



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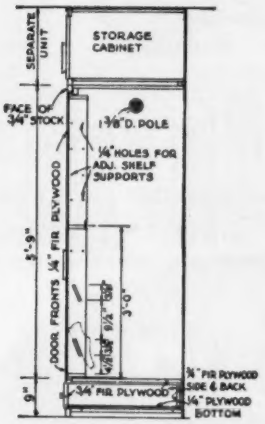
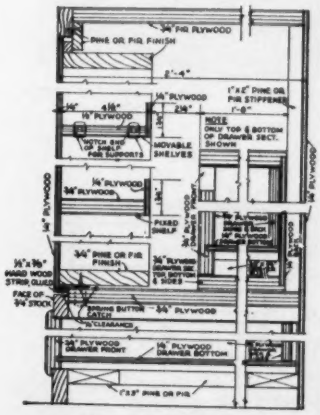


VERTICAL SECTION B-B



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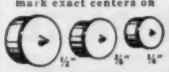

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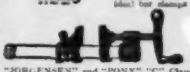

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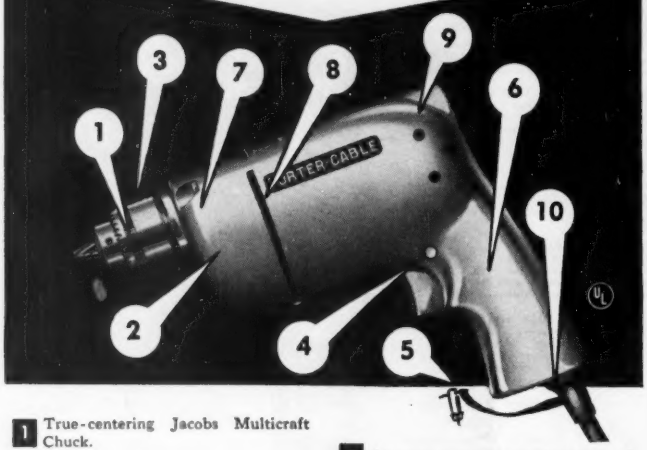

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Back of main unit, drawer bottoms, bin fronts—2—4' x 8' x ¼" panel (*A-D)

Sides, top, bottom of upper unit, movable shelves—1—4' x 8' x ½" panel (*A-D)

Sides, top, bottom of main unit, doors upper unit, drawer fronts, sides. Sides, top, bottom drawer units—3—4' x 8' x ¾" (*A-D)

*A-A—both sides of plywood finished.

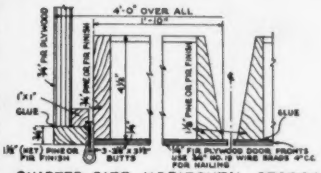
*A-D—one side finished, other side may be imperfect. Used where only one side shows.

LUMBER REQUIRED

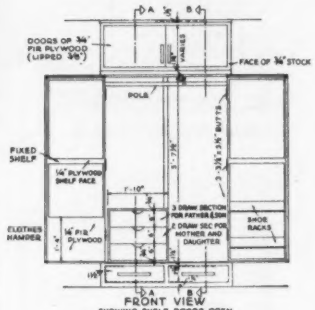
1—1¼" x 5"—12 feet
1—1" x 5"—20 feet
1—1" x 4"—4 feet
1—1" x 3"—18 feet
1—1" x 2"—42 feet
1—1⅜" pole—4 feet

HARDWARE

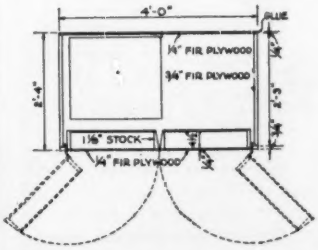
3 pr. 3½ x 3½ hinge butts
2 pr. offset hinges
2 pr. spring button catches
8 pr. shelf supports
1 pr. pole supports



QUARTER SIZE HORIZONTAL SECTION



FRONT VIEW
SHOWING SHELF DOORS OPEN



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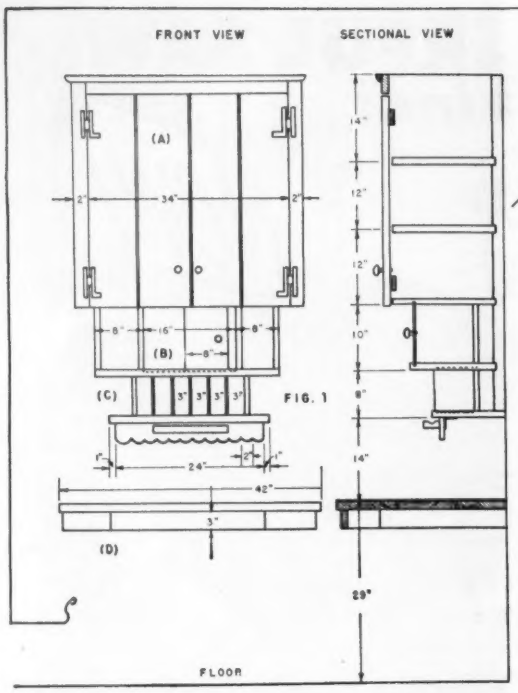

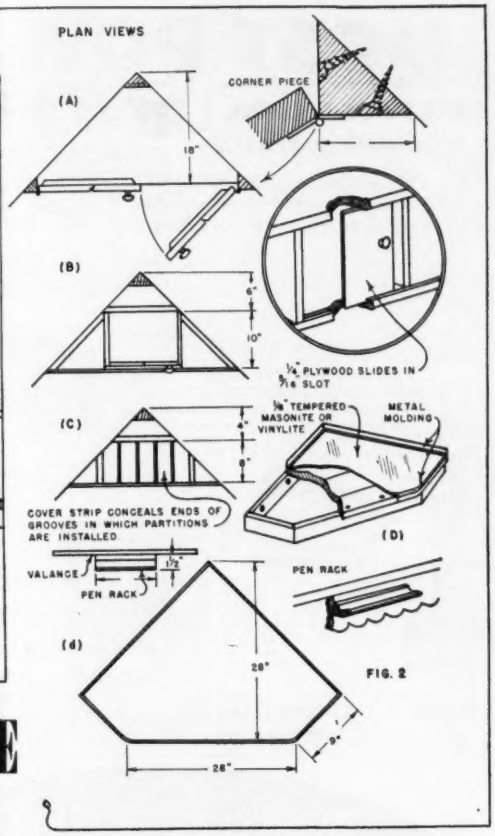

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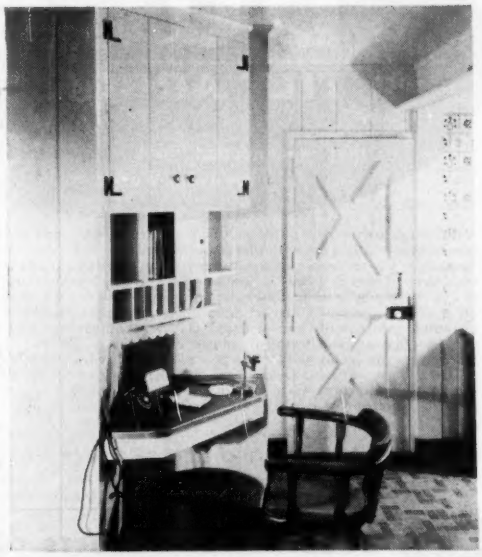
Directly below is the reference library, with a sliding panel running in grooves (B). Pigeon holes below that (C) have thin plywood or Masonite partitions except the two outermost ones, which are ¾" material. The thin ones set in rabbets above and below, and a cover strip conceals the ends of the slots. Valance is scroll-sawed from plywood or ½" pine and secured under (C) with small angle brackets. In fact, furniture-type angle brackets are used throughout the construction instead of wooden cleats, except where indicated.

Desk top (D) is covered with Masonite or Vinylite and bound with stainless steel molding. Structure, except desk top, is painted to match of trim in the room in which it is installed.

MATERIALS LIST

1 piece ⅛" tempered Masonite 42" x 42"
32 lineal feet 1" x 12" pine
24 lineal feet 1" x 3" pine
12 lineal feet ½" x 12"
1 piece plywood ¼" x 10" x 36"
1 piece stainless molding 1" x 7'6"
4 H-hinges, 2 knobs, screws as required.



The entire business of the household can be handled at this compact little corner "office" installed in the kitchen or hallway.

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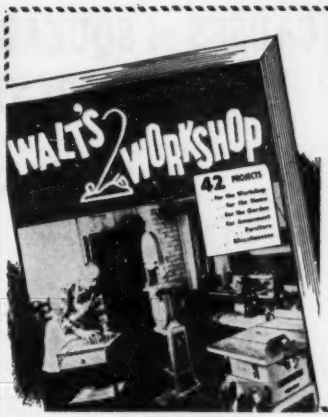

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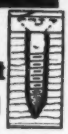

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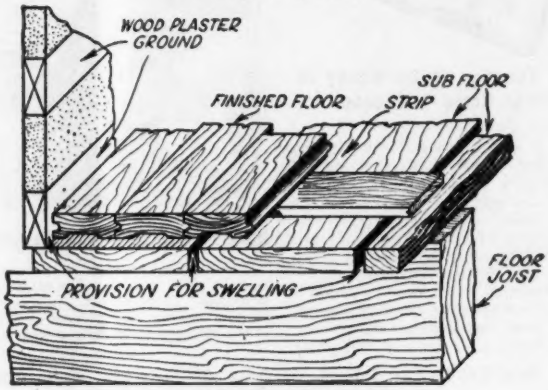
CAUSES of SQUEAKS in WOOD FLOORING -- AND THEIR REMEDY

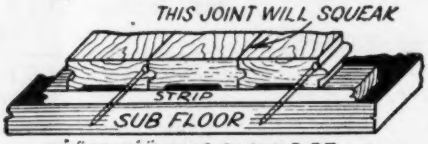
By
FRANK CULHANE
Associate editor



TYPICAL FLOOR CONSTRUCTION
SHOWING ALLOWANCES FOR SWELLING

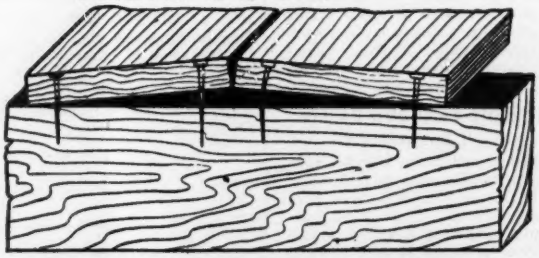
THERE are three main causes for squeaks in flooring. The first cause is failure to nail the floor on each strip at the proper intervals (Fig. 2). Carpenters frequently skip nailing one strip. The second cause, usually due to ignorance, is the failure to provide room for movement of the sub-floor and finish floor for shrinkage and swelling. These changes occur during the several seasons of the year, as any householder may observe. Frequently both these causes combine. The action is as follows: When the flooring material swells, the board without nails tends to lift up because it offers the least resistance to movement. When the flooring material shrinks, this board is loose. Any pressure from above causes the edges of the loose strip to rub against the edges of the adjoining boards, resulting in a loud squeak.

Failure to provide room for expansion due to the swelling of boards is especially common on sub-flooring. These boards are laid before the building is covered. Rains and snow soak them at frequent intervals. Having no room to move, they lift up (Fig. 3) and warp, or cup. This action lifts the nails (Fig. 4). When the building dries out, the nails project and the boards are loose. On residence construction where the finish floor is laid



6d"-OR-7d" NAILS SHOULD BE DRIVEN AT 45° 16" APART

FIG. 2



SUB-FLOOR SWELLS, NAILS ARE DRAWN UP

FIG. 3

directly upon the sub-floor, this condition will cause rubbing of the edges of the finish floor.

The third cause for squeaks is unsupported butt joints where two or more adjoining boards have joints butted between support (Fig. 5). In this instance the joints are dependent upon the small tongue on the end of the board for support. The joint is loose enough to cause movement under pressure. Frequently even this support is lacking when the carpenter attempts to use up scrap lengths that have no groove or tongue.

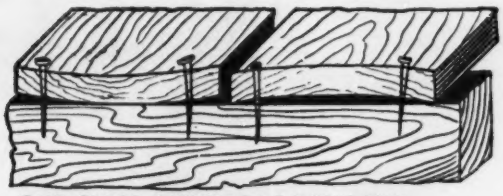
The Remedy

Try to find the exact location of the squeak. This is done by walking along the strip until a squeak is heard. Alternately throw your weight upon the floor, then release it. The trouble may come from one board (if the trouble is lack of nails on one strip—Fig. 2). Or it may cover an area if the cause comes from loose sub-floor or finish floor due to lifting (Figs. 3 and 4). When the strip or area is located, mark it with chalk.

The next step is to locate the strips or joists that support the floor. Usually this is done by examining the last two courses of boards near the wall, where the carpenter laid the last strips. These boards are nailed through the face. The nail holes are covered with putty. Mark the location of the supports in the area to be nailed.

Floors in this condition are usually fastened by driving a 4"-long 20 d casing nail (Fig. 6) through both floors into the joist. Drill a hole through the finish floor that will allow the nail to pass freely. Coat the nail with soap and drive it home. Try one nail at the point where the squeak is the loudest.

Nailing unsupported butt joints (Fig. 5) requires care to avoid splitting. For this reason, the writer prefers to use long, thin wood screws. Place the nails or screws on the full length board adjacent to the butt about ½" back from the edge. The necessary length for the screw may be ascertained by drilling a small hole at the point described.



SUB-FLOOR SHRINKS LEAVING NAIL PROJECTED FLOOR SQUEAKS WHEN PRESSURE IS APPLIED FIG. 4

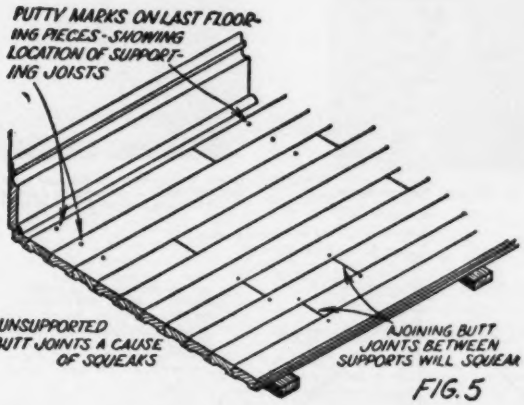
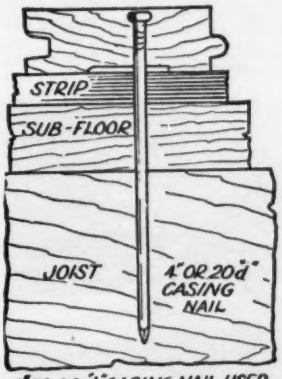


FIG. 5



4" OR 20 d" CASING NAIL USED TO FASTEN LOOSE FLOORING FIG. 6

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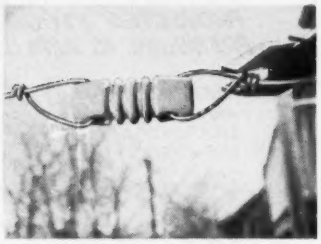
WILL YOUR TV ANTENNA STAY PUT IN A GOOD BLOW?

By MAX ALTH

Fasten your wires to your antenna post before you raise it. This post has two brace points (see knobs on mast).

Use a common rope hitch to fasten wire to wood mast. Use commercial clamps for metal mast.



Insert an insulator in the guy wire line when you find that it is reflecting a weak second signal into your antenna. Check on all stations.

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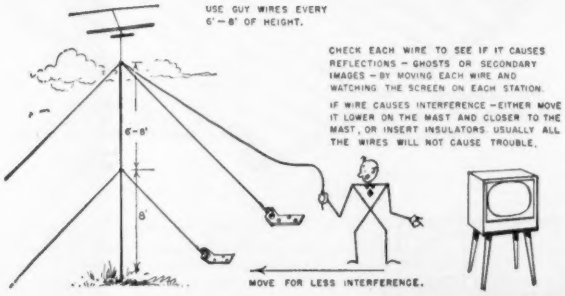
In practically all cases simple, low cost bracing that can be applied in little time will prevent such damage. The strongest TV antenna post made cannot compare with an ordinary every day post that is braced. Bracing, you see, provides the strength where it is needed most.

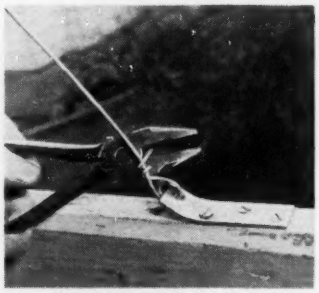
Bracing should be employed on all posts over 8' tall. (The word "post" is used for both the metal pipe and wood dowel supports commonly used. Masts, a designation used to denote girders; or multi-section internally braced supports, require special bracing not covered by this article.) Over 8', additional braces should be used for every 6' or 8' of height. No less than three equally spaced brace lines should be used, and four are even better.

While multi-wire steel cables can be used, common galvanized iron wire which is available in most hardware stores is satisfactory. Use wire 1/16", or more, thick.

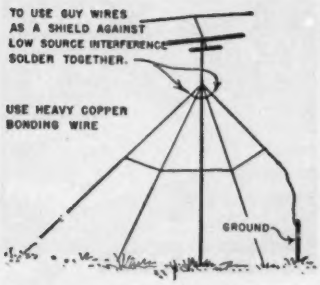


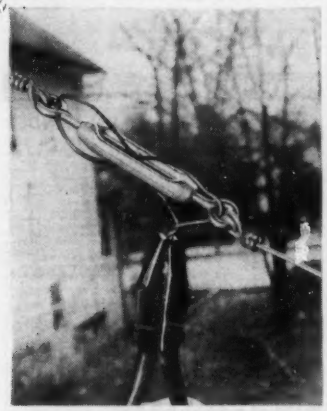
The wire is fastened to the antenna post with either metal clamps which can be purchased from the antenna manufacturers for use with metal posts, or by simply tying the wire around the post with a standard rope hitch. Most likely, you will find it easier to fasten the wires to the post before you raise it.

The lower ends of the wires are fastened to the wall or roof. Do not merely drive a nail or a screw into the building—instead, use a manufactured anchor plate or a mending plate bent up at one end. Place the plate so that the pull is across the screws. Run the wire through the hole two or more times, first removing most of the bevel with a hand reamer. If your particular installation works out so that the pull is in a direct

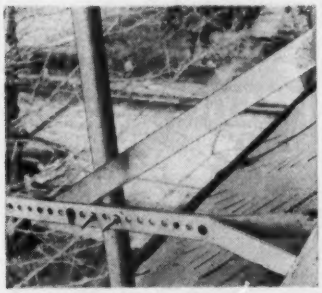


Use a small mending plate to fasten the lower end of your guy wire. Note that the wire has been pulled twice through the hole and that the hole has been reamed smooth.





Run a wire through your turnbuckle to keep it from loosening in the wind.



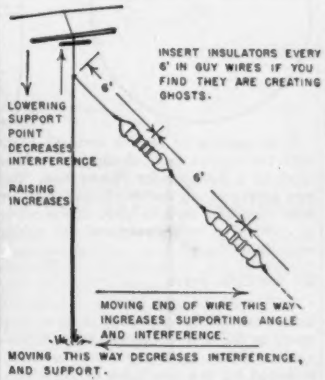
Add a bruce strap to provide necessary strength for side wall mast mounting.

line with the screws, use as large a lag bolt as you can install.

The angle at which you run your guy wires is most important. The steeper they run, the closer they are fastened to the foot of the antenna post, the less strength they will have. The further away from the post, the greater their angle—and the greater will be their bracing effect.

However, if you run them too flat (too near the horizontal) they will begin to affect your reception. One solution is to insert insulators every 6' in the guy wires. Common old-fashioned antenna insulators can be used, or the "strain" type insulators.

"A word to the wise . . ."—turn on your set, raise and lower each guy wire one after another, and watch each station for ghosts or second images. If you do not see any disturbing images, there is no need for the insulators.



In areas where there is TV static or interference originating below the antenna, fasten all your guy wires together on top with a soldered connection. Then ground the wires on the bottom. This will help shield, or reduce, this interference. No insulators should be used in this kind of bracing. In fact, you will obtain a double benefit from your guy wires or bracing this way.

Be sure to pull your wires up snug. Turnbuckles will help you do this. Tighten until you cannot swing the antenna when you push on the post. *Do not tighten until you remove all the kinks from the wires.* This merely puts an unnecessary strain on the wires and does not help support the post. Besides, you will need those small bends and kinks in the wires when the wind blows. They will provide a sort of spring action.

When the turnbuckles have been tightened thread a length of wire through the eyes and center. This will keep the turnbuckle from loosening.

If the lower end of your mast is supported by a wall bracket use a brace to give it necessary strength.

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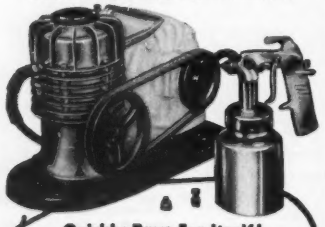

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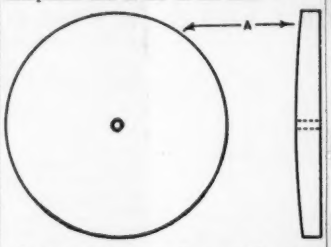
ONE CRAFTSMAN TO ANOTHER

M. J. Hiland suggests the following:

Sand Disk for Your Saw

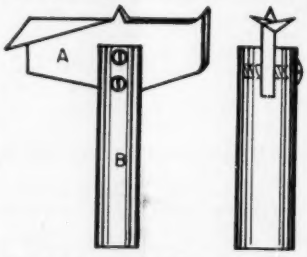
The important part is to sand off the outer edge from A to center on a slight curve. If the disk is used straight the rear end of the work will kick up. Saw the disk from a piece of ¼" Masonite. May be trued up with a lathe tool or sharpened end of file on the saw.



It is possible to sand a straight piece with the cupped disk. Sandpaper such as used in a floor sander works fine. But two pieces of regular sandpaper may be used by gluing back to back. If the paper is crooked it will straighten out under centrifugal force.

Bit for Drill Press

A 2" or 3" bit made as shown here will turn a curled shaving when used at slow speed in the drill press. Bit may be riveted to shank, or if you are able to tap a thread for the two holes in the shank, you may have an assortment of bits.



The bit A is preferably a ⅛" piece of tool steel. The lip of A is turned over in the vise while red hot. If you don't know how to temper it, you may heat to red again. Brighten a spot on a coarse stone. Wait until the cutting edge turns blue and quench quickly in oil.

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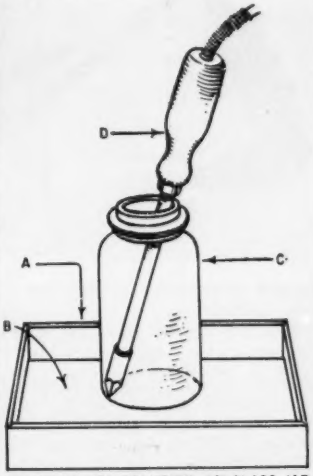

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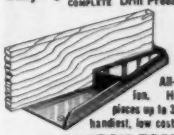

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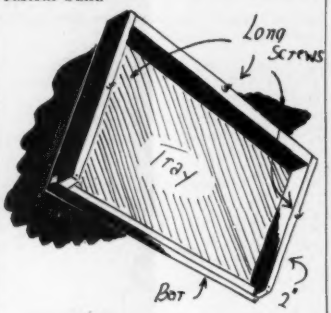
Build it Yourself at ⅓ the cost with our BOAT PATTERNS

Full-size, cut-to-shape, complete blueprints and specifications, $3.75 up. Designed by Naval architects. Cruisers, runabouts, sloops, outboards, sailing canoe (Kayak), etc. Low prices. Send 25c (coin) for latest illustrated catalog, "How to Build Boats" book, $1.00; Poly-Wog Houseboat Plans, $10.

CLEVELAND BOAT BLUEPRINT CO.
Dept. A-18 Cleveland 4, Ohio

of the tray to keep anything from falling out. Paint the front edge to match the rest of the desk accessories and it will give the appearance of having been custom-built.



Hinged Form Makes Jointing Easy

Clinton R. Hull says:

To hold glued joints firmly and in perfect square while being drilled and screw fastened, make the hinged pressure form shown in Photo 1. Square the lefthand crosspiece with 1" x 6" backing board (Photo 1). The end piece of the form squares with the outer edge and both are fastened securely.

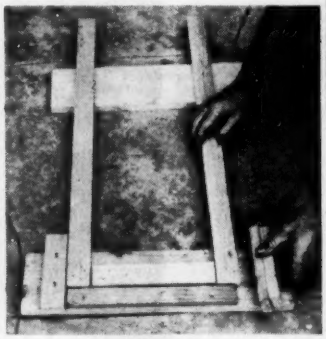


Photo 1

The movable piece also is squared at right angles to the backing board at exactly the outside width of the frame to be made in the form. Round the lower edge of the movable piece as shown and set it so it will just go down alongside the frame when tapped smartly with a hammer.

Properly adjusted, it will exert tremendous pressure on the frame joints and keep them square (Photo 2). The

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HOMECRAFT and the HOME OWNER
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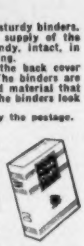

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PERMANENTLY mends cracks or holes in wood, tile, stone or plaster. Sticks and stays put—Does not chip, shrink or fail out. Easy to use. Economical. Mold it, chisel it, polish or paint it. If unobtainable from your lumber, paint or hardware dealer, the big 4-lb. can will be sent you postpaid (in U.S.) for only $1.25. Satisfaction guaranteed or money refunded. Order now.

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ONLY $14.75 f.o.b. factory

Complete with Twin Carbon Arc Torch and accessories . . . to handle all metal-craft work.

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Make STURDY Work Bench or Power Tool Stand. Use almost any size wood top and wood shelf. Four standard heights: 20", 24", 28" and 32". Gray baked enamel finish. Packed 4 legs with 8 brackets, and cadmium plated bolts & nuts. Shelf bracket adjustable in 3 positions. Price—#HD20—$5.95; #HD 24—$6.45; #HD 28—$6.95; #HD 32—$7.45. Rubber Feet $.85 POSTPAID.

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EASY TO MAKE - BEAUTIFUL DESIGNS

Attractive, carefully designed, full size patterns from which you can make beautiful projects for pleasure or profit.

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Wind revolves wings. Realistic appearance. Pattern and instructions showing how to make and paint every part and Wing Pinion Kit: brass bearing, steel shaft, wing tops, bolts, nuts and washers, 60c. Patterns only, 25c.

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This amusing bird has a flexible steel spring for his neck. Air currents cause the head to nod in a very realistic manner. Colorful and decorative. Full size pattern including steel spring for neck, instructions and color directions, 25c.

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All items listed in this ad, only $3.10.

STROTHER PATTERN SERVICE

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second wide board shown is a spacer to level the frame pieces with the backing board of the form. While the form shown here is only temporary, a more elaborate one incorporating a hinge carrier adjustable to varying frame sizes may be built easily enough.

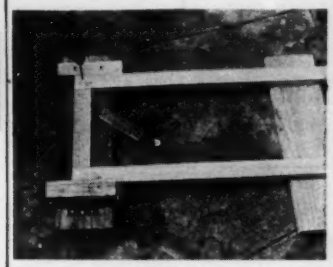
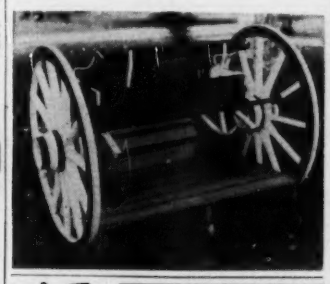


Photo 2

BUCKBOARD SEAT FOR YARD

This buck-board type of yard seat can be assembled from various discarded farm-yard items: Two wagon wheels, any style you prefer, two leaf springs from an old farm wagon or buggy, a buck-board seat, and some odds and ends of lumber. The platform resembles an old buck-board wagon with its foot rest and spring-mounted seat. The seat floats on springs, independent of wheels, which are merely for decoration.



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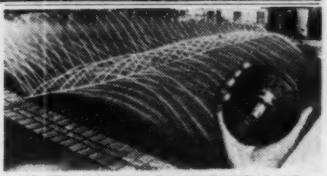

50 FT. SPRINKLER WEIGHS 1 LB.

This flexible plastic sprinkler can spray an area 15 ft. wide by 50 ft. long at average water pressure. Drape it over your hillside, twine it around your flower beds, shape it to any contour of your landscaping—it'll do a perfect sprinkling job in any position! This durable sprinkler will not rot or mildew, even if stored wet! The spray is so fine it's gentle on flowers—a real water saver! Turn the valve and it becomes a soaker. Complete with brass connector. 20 ft. length $2.50; 50 ft. length $4.75 postpaid. 5 yr. guarantee. NO C.O.D.'s PLEASE.

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Starts the Toughest Screws

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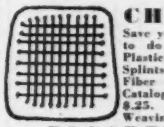

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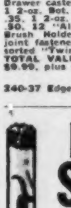

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Fig. 19—Using an emery cut-off wheel for cutting ⅛" dural metal on the bench saw.

Fig. 20—Reversing the miter guide to saw a board that is too wide to fit between the guide and the saw.

Fig. 21—Cutting taper pegs on the bench saw through the use of the jig shown in Fig. 22.

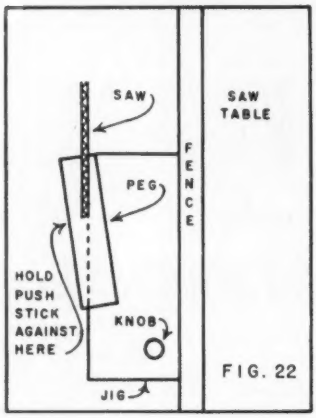
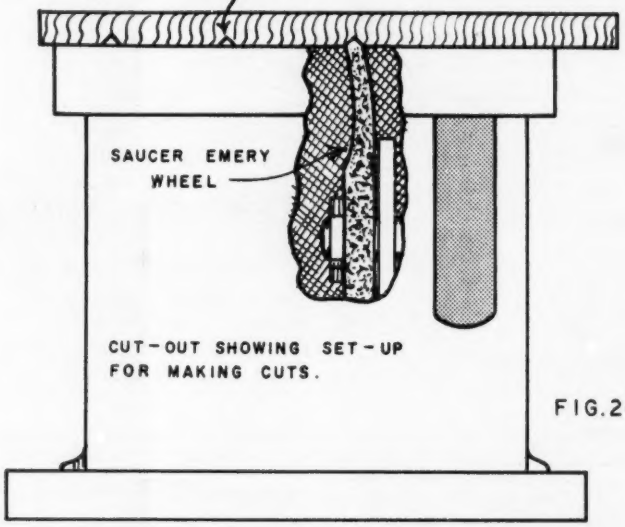


FIG. 22

LOOKING DOWN ON TOP OF BENCH SAW SET-UP WITH JIG FOR CUTTING SQUARE WOODEN PEGS.

Fig. 23—Cutting Vees in a piece of plywood through the use of a coarse 5" saucer emery wheel set up in the bench saw.

USING COARSE SAUCER EMERY WHEEL IN BENCH SAW FOR CUTTING VEE'S IN BOARDS.



CUT-OUT SHOWING SET-UP FOR MAKING CUTS.

FIG.24

END VIEW OF SAW SET-UP FOR DECORATING BOARDS WITH "V" CUTS.

(*Continued from page* 340)

aside from making a wonderful little drill for drilling holes for jig saw work, it may be used for wood carving, grinding, polishing and all sorts of intricate jobs. Stands for converting this tool into a drill press also are available. Fig. 17 shows the shaft set in the drill press stand; and alongside this machine is shown a small hand drill.

Fig. 18 shows an operator using the flexible shaft—fitted with a ¼" round mounted emery wheel—gumming a 10" circular saw. This is done by grinding down between the teeth on the combination saw. We find that it is much faster and works equally as well as filing.

If your bench saw is fitted with a 5" or 6" x ⅛" thick emery cut-off wheel you will be able to save a lot of time cutting thin metal. The wheel is fitted on in the same manner as the saw blade, and the metal is cut just as you would saw a board. Fig. 19 shows an operator cutting ⅛" dural metal with this method.

Fig. 20 shows the operator using the miter guide to saw a board that is too wide to fit between the guide and the saw. The guide is reversed and set in the channel backwards. The board is placed against the guide and cut part way through. Then the power is shut off, the miter guide removed and set in its proper position. The machine is started again and the board is run through, completing the cut.

Fig. 21 shows the operator cutting tapered square wood pegs on the bench saw. A simple jig shown in drawing Fig. 22 illustrated the type of jig used and how the operation is performed. The jig is made of wood, with a taper cut to make pegs of any size and taper.

Fig. 23 shows how, through the use of a 5" coarse saucer emery wheel, the decorative Vees (V) may be cut easily and speedily in any kind of boards. The saucer emery wheel is set in the machine to replace the saw. Start the machine and trim the rim of the wheel (with an emery wheel dresser) to a convex (V). Then, using the fence or the miter guide, run the boards through, spacing the Vees as desired. Drawing Fig. 24 shows a cut-out detail of the set-up.

For dressing down an emery wheel use any piece of broken emery wheel. The harder the better.

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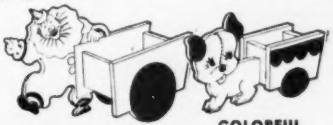

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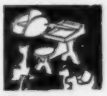

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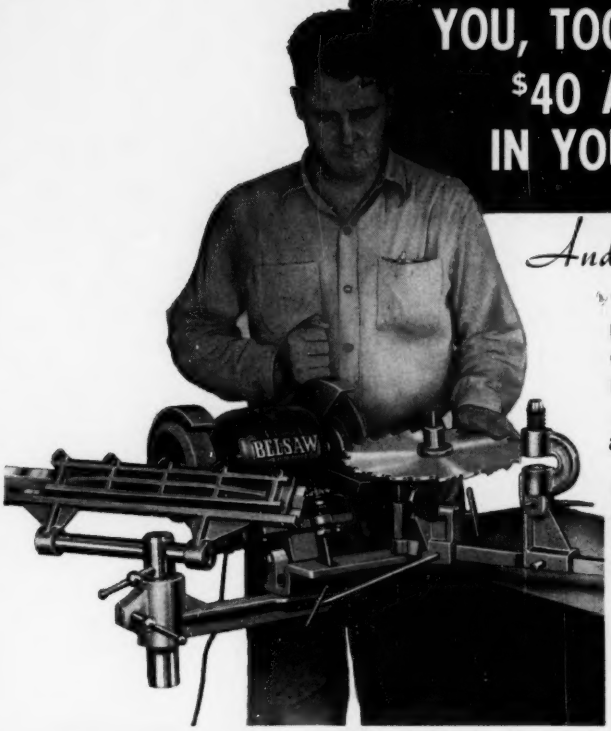

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